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LATHAM & WATKINS LLP

March 18, 2004

VIA FEDEX

Mary Jane O'Donnell
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency
1 Congress Street (HBT)
Boston, MA 02114-2023

File No 031529-0010

Re: Stepan Company – Request for Information Pursuant to Section 104 of CERCLA in relation to the former Whitney Barrel Company at the Wells G & H Superfund Site in Woburn, Massachusetts

Dear Mary Jane:

Enclosed please find Stepan Company's response to the above referenced request for information. As confirmed in my letter to you dated February 12, 2004, EPA agreed to an extension until March 19, 2004 for Stepan Company to provide this response. Thank you for your cooperation, and please contact me or Carol Bynoe at Stepan Company (contact information in enclosed response) if you have any questions.

Best regards,

David H. Becker
of LATHAM & WATKINS LLP

Enclosures

cc: C. Bynoe, Stepan Company (via FedEx)

WELLS G & H SUPERFUND SITE
WOBURN, MASSACHUSETTS
INFORMATION REQUEST QUESTIONS

1. General Information About Respondent

NOTE: **All questions in this section refer to the present time unless otherwise indicated.**

a. Provide the full legal name and mailing address of the Respondent.

Stepan Company
22 West Frontage Road
Northfield, Illinois 60093

b. For each person answering these questions on behalf of Respondent, provide:

i. *full name;*
ii. title;
iii. business address; and
iv. business telephone number.

Carol A. Bynoe, Esq.
Senior Attorney
Stepan Company
22 West Frontage Road
Northfield, Illinois 60093
(847) 501-2244

c. If Respondent wishes to designate an individual for all future correspondence concerning this Site, including any legal notices, please so indicate here by providing that individual's name, address, and telephone number.

The Legal Contact for Stepan Company ("Stepan") for this matter is:

Carol A. Bynoe, Esq.
Senior Attorney
Stepan Company
22 West Frontage Road
Northfield, Illinois 60093
(847) 501-2244

d. Provide the names of all Superfund sites in Region I (New England) for which Respondent has received a 104(e) Request for Information Letter from EPA.

Stepan has information indicating it received or may have received 104(e) Request for Information Letters from EPA for the following Region I Superfund sites:

Charles-George Reclamation Landfill (Tyngsborough, MA)
Iron Horse Park (Billerica, MA)

2. Respondent's Legal Status

NOTE: **All questions in this section refer to the present time unless otherwise indicated.**

a. *If the Respondent has ever done business under any other name;*

i. list each such name; and
ii. list the dates during which such name was used by Respondent.

Stepan Company (an Illinois corporation) from 1932 until February 19, 1959.
Stepan Chemical Company (a Delaware corporation) from February 19, 1959 until December 31, 1983, on which date Respondent's name changed to Stepan Company.

b. If Respondent is a corporation, provide:

i. the date of incorporation;
ii. state of incorporation;
iii. agent for service of process

Stepan Company was incorporated in the State of Delaware on February 19, 1959.

Agent for service of process is:

Corporation Trust Company
1209 Orange Street
Wilmington, DE 19801

c. If Respondent was a business entity other than a corporation, provide:

i. the type of organization (sole proprietorship, partnership, trust, etc.)
ii. the date the business began; and
iii. *owner, managing partner, or other equivalent person in charge.*

N/A

d. If Respondent is, or was at any time during the period being investigated, a subsidiary of, otherwise owned or controlled by, or otherwise affiliated with another corporation or entity, then describe the nature of each such corporate relationship, including but not limited to:

i. a general statement of the nature of the relationship;
ii. the dates such relationship existed;
iii. the percentage of ownership of Respondent that is held by such other entity; and
iv. for each such affiliated entity provide the names and complete addresses of its parent, subsidiary, and otherwise affiliated entities.

See Attachment 1 for a list of Stepan affiliates.
Stepan Canada, Inc., Stepan Mexico, S.A. de C.V., Stepan Europe, Stepan Colombiana de Quimicos S.A., and Stepan Quimica Ltda. are 100% owned subsidiaries of Stepan Company.
Stepan Deutchland GmbH and Stepan UK Ltd. are 100% owned subsidiaries of Stepan Europe.
Stepan Philippines, Inc. (J.V.) is a 50% owned subsidiary of Stepan Company.
Nanjing Stepan Jinling Chemical Limited Liability (J.V.) is a 55% owned subsidiary of Stepan Company.

e. Identify all of Respondent's predecessors-in-interest and provide a description of the relationship between Respondent and each of those predecessors-in-interest.

N/A

f. If Respondent no longer exists as the same legal entity it was during the period being investigated because of transactions involving asset purchases or mergers, provide:

i. the titles and dates of the transactions and copies of documents that embody the terms of such transactions (i.e., purchase agreements, merger and dissolution agreements, etc.);
ii. the identities of the seller, buyer, and any other parties to such transactions;
iii. a brief statement describing the nature of the asset purchases or mergers; and
iv. a brief statement describing and copy(s) of documents embodying any/all indemnification agreements.

N/A

g. If Respondent has filed for bankruptcy, provide:

i. the U.S. Bankruptcy Court in which the petition was filed;
ii. the docket numbers of such petition
iii. the date the bankruptcy petition was filed;
iv. whether the petition is under Chapter 7 (liquidation), Chapter I I (reorganization), or other provision; and
v. a brief description of the current status of the petition.

N/A

3. Respondent's Operations

NOTE: **All questions in this section refer to the period being investigated (1950-1985) unless otherwise indicated.**

ALSO NOTE: All questions in this Section refer to facilities owned or operated by the Respondent within Massachusetts, Rhode Island, New Hampshire or Maine and to any other facility owned or operated by Respondent which had any business or other contractual relationship with Whitney Barrel Company. **Please note that it is not necessary to identify or provide information about any facilities that are engaged solely in clerical/office work.**

a. Provide the complete addresses of Respondent's plants and other buildings or structures where Respondent carried out its operations.

From 1968 until 1980, Stepan owned and operated a plant at 51 Eames Street, Wilmington, MA 01887 ("Wilmington Plant").

Stepan did not own and does not currently own any other plants in Massachusetts, Rhode Island, New Hampshire and Maine.

b. Provide a brief description of the nature of Respondent's operations at each location including:

i. the date such operations commenced and concluded;
ii. the types of work performed at each location, including but not limited to the industrial, chemical, or institutional processes undertaken at each location; and
iii. the type of products manufactured, recycled, recovered, treated or otherwise processed in these operations.

On December 20, 2002, counsel for Stepan submitted a response to a Request for Information from the Massachusetts Department of Environmental Protection, which is enclosed ("MADEP Response"). Attached as Tabs to the MADEP Response are the available records related to the Wilmington Plant that are responsive to this Request for Information. Citation to the documents at the Tabs attached to the MADEP Response are made below, where appropriate.

Stepan purchased the Wilmington Plant from Fissons Corporation in 1968. Stepan sold the Wilmington Plant to Olin Corporation in 1980. The plant produced chemical additives for rubber and plastics processing. For additional detail, please see documents attached at Tabs 1, 2, 3, 4, 6, 9 &10 of the MADEP Response.

<u>Please Note</u>: As described in the document attached at Tab 10 of the MADEP Response, the business records pertaining to the Wilmington Plant were left at the premises when Stepan sold the Plant to Olin Corporation in 1980.

c. Enclosure F provides a list of chemical constituents conclusively identified to date at the Site. For each facility identified in 3.a above, identify, to the best of your knowledge, any chemical constituents listed in Enclosure F that:

i. would have been produced, processed, or used in connection with facility operations; or
ii. would have been present in materials produced, processed, or used in connection with facility operations.

Please see documents at Tabs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & 15 of the MADEP Response.

d. If the nature or size of Respondent's operations changed over time, describe those changes, the dates they occurred, and the nature of the current business at each such location, including but not limited to a brief description of the major products or services Respondent manufactures or provides.

To the best of its knowledge, based on its review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question. Stepan does not own or operate the current business at the site of the Wilmington Plant.

e. List the products Respondent manufactured, recycled, recovered, treated, or otherwise processed in these operations.

Please see documents at Tabs 1, 2, 3, 6, 9 &10 of the MADEP Response.

f. In general terms, list the types of raw materials used in the operations.

Please see documents at Tabs 1, 2, 3, 4, 6, 9 &10 of the MADEP Response.

g. Describe the cleaning and maintenance of the equipment and machinery involved in these operations, including but not limited to:

i. the types of material used to clean/maintain this equipment/machinery; and
ii. the monthly or annual quantity of each material used.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

h. Describe the methods used to clean up spills of liquid or solid material during operations, including but not limited to:

i. the type of materials spilled in operations;
ii. the materials used to clean up these spill
iii. the methods used to clean up those spills; and
iv. where the materials used to clean up those spills were disposed of.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's

operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

i. *Provide a schematic diagram or flow chart that fully describes and/or illustrates* the operations at the Site.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

j. Identify all former or current employees and all other persons who have any knowledge of or information about the subject matter of any of the foregoing questions or who had any contact with Whitney Barrel Company.

Except for the former employees listed below in the response to Question 9, to the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

4. Respondent's Wastes and Waste Streams (including By-Products)

NOTE: **All questions in this section refer to the period being investigated (1950-1985) unless otherwise indicated.**

a. Complete the enclosed "Waste Survey " checking each substance present in Respondent's wastes or by-products and providing all requested information for each such substance that is checked.

Please see documents at Tabs 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & 15 of the MADEP Response.

b. For each type of waste (including by-products) from Respondent's operations, including but not limited to all liquids, sludges, and solids, provide the following information:

i. its physical state,
ii. its name and chemical composition;
iii. the approximate monthly and annual volumes of each type of waste (using such measurements as gallons, cubic yards, pounds, etc.); and
iv. the dates (beginning & ending) during which each type of waste was produced by Respondent's operations.

Please see response to Question 4a.

c. Describe how each type of waste was collected and stored at Respondent's operation prior ro disposal/recycling/sale/transport, including:

i. the type of container (e.g. 55 gal. drum, tank, dumpster, etc.);
ii. the colors of the containers;
iii. any distinctive stripes or other markings on those containers;
iv. any labels or writing on those containers (including the content of those labels);
v. whether those containers were new or used;
vi. where each type of waste was collected/stored. and
vii. if those containers were used, a description of the prior use of the containers.

Please see response to Question 4a.

d. Identify (see Definitions) the person(s) who was responsible for collecting and managing each type of waste.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

e. For each location, identify and provide copies of all surveys or studies conducted between 1950 and 1985 about its waste management practices including but not limited to disposal, treatment, storage, recycling, or sale of wastes.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

f. Identify all former or current employees and all other persons who have any knowledge of or information about the subject matter of any of the foregoing questions or who had contact with Whitney Barrel Company.

Except for the former employees listed below in the response to Question 9, to the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

5. Respondent's Disposal/Treatment/Storage/Recycling/Sale of Waste (including By Products):

NOTE: **All questions in this section refer to the period being investigated (1950-1985) unless otherwise indicated.**

ALSO NOTE: **Your response to questions in this section must refer to all locations to which Respondent sent its wastes.**

a. Identify (see Definitions) all individuals who currently have and those who have had responsibility for the disposal, treatment, storage, recycling, or sale of Respondent's wastes, including, but not limited to barrels or empty barrels.

The individual with current overall responsibility for the disposal, treatment, storage, recycling, or sale of Stepan's wastes is Dave Milner, Director of Environmental Health & Safety. Stepan understands this request to otherwise refer to its operations within Massachusetts, Rhode Island, New Hampshire, and Maine for the period being investigated, which is limited to the Wilmington Plant between 1968 and 1980. To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any other information responsive to this question.

b. Identify (see Definitions) all individuals who currently have and those who have had knowledge of the disposal, treatment, storage, recycling, or sale of Respondent's wastes, including, but not limited to barrels or empty barrels.

Please see response to Question 5a.

c. Identify (see Definitions) all individuals who currently have and those who have had responsibility for Respondent's environmental matters.

Please see response to Question 5a.

d. For the previous three responses, also provide each individual's:

i. job title;
ii. duties;
iii. dates performing those duties;
iv. supervisors for those duties;
v. current position or, if such individual is no longer employed by Respondent, the date of the individual's resignation; and
vi. the nature of the information possessed by such individuals concerning Respondent's waste management.

Please see response to Question 5a.

e. Describe the containers used to take each type of waste from Respondent's operation, including but not limited to:

i. the type of container (e.g. 55 gal. drum, tank, dumpster, etc.);
ii. the colors of the containers;
iii. any distinctive stripes or other markings on those containers;
iv. any labels or writing on those containers (including the content of those labels);
v. whether those containers were new or used; and
vi. if those containers were used, a description of the prior use of the containers.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

f. For each type of waste describe Respondent's contracts, agreements, or other arrangements for its disposal, treatment, or recycling.

Please see documents at Tabs 5, 7, 8, 9, 10, 11, 12, 13, 14 & 15 of the MADEP Response. To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any other information responsive to this question.

g. Provide copies of such contracts and other documents reflecting such agreements or arrangements.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

h. State where Respondent sent each type of its waste, including barrels and empty barrels, for disposal, treatment, or recycling.

***Please see documents at Tabs 5, 7, 8, 9, 10, 11, 12, 13, 14 & 15 of the* MADEP Response.**

i. Identify (see Definitions) all entities and individuals who picked up waste, including barrels, from Respondent or who otherwise transported the waste away from Respondent's operations (these companies and individuals shall be called "Waste Carriers" for purposes of this Information Request).

Please see documents at Tabs 5, 8, 9, 10, 11, 12, 13, & 15 of the MADEP Response for information responsive to Questions i through u.

j. If Respondent transported any of its wastes away from its operations, please so indicate and answer all questions related to "Waste Carriers" with reference to Respondent's actions.

k. For each type of waste specify which Waste Carrier picked it up.

l. For each type of waste, state how frequently each Waste Carrier picked up such waste.

m. For each type of waste state the volume picked up by each Waste Carrier (per week, month, or year).

n. For each type of waste state the dates (beginning & ending) such waste was picked up by each Waste Carrier.

o. Provide copies of all documents containing information responsive to the previous seven questions.

p. Identify (see Definitions) all of each Waste Carrier's employees who collected Respondent's wastes and waste containers.

q. Indicate the ultimate disposal/recycling/treatment location for each type of waste.

r. Provide copies of all documents indicating the ultimate disposal/recycling/treatment location for each type of waste.

s. Describe how Respondent managed pickups of each waste, including but not limited to:

i. the method for inventorying each type of waste;
ii. the method for requesting each type of waste to be picked up;
iii. the identity of (see Definitions) the waste carrier employee/agent contacted for pickup of each type of waste;
iv. the amount paid or the rate paid for the pickup of each type of waste;
v. the identity of (see Definitions) Respondent's employee who paid the bills; and
vi. the identity of (see Definitions) the individual (name or title) and company to whom Respondent sent the payment for pickup of each type of waste.

t. Identify (see Definitions) the individual or organization (i.e., the Respondent, the Waste Carrier, or, if neither, identify such other person) who selected the location where each of the Respondent's wastes were taken.

u. State the basis for and provide any documents supporting the answer to the previous question.

v. Identify all former or current employees and all other persons who have any knowledge of or information about the subject matter of any of the foregoing questions.

Except for the former employees listed below in the response to Question 9, to the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

6. Respondent's Environmental Reporting:

NOTE: **All questions in this section refer to the period being investigated (1950-1985).**

a. Provide all Resource Conservation and Recovery Act (RCRA) Identification Numbers issued to Respondent by EPA or a state for Respondent's operations.

To the best of Stepan's knowledge, the RCRA Generator Identification Number for the Wilmington Plant was MAD001403104.

b. Identify (see Definitions) all federal offices to which Respondent has sent or filed hazardous substance or hazardous waste information.

United States Environmental Protection Agency, Region I

c. State the years during which such information was sent/filed.

1989 – please see documents at Tabs 9 & 10 of the MADEP Response

d. Identify (see Definitions) all state offices to which Respondent has sent or filed hazardous substance or hazardous waste information.

Commonwealth of Massachusetts, Div. of Water Pollution Control
Commonwealth of Massachusetts, Dept. of Environmental Quality Engineering
Massachusetts Department of Environmental Protection

e. State the years during which such information was sent/filed.

1979 – please see document at Tab 4 of the MADEP Response
1971 – please see document at Tab 5 of the MADEP Response
1970 – please see document at Tab 7 of the MADEP Response
1981 – please see document at Tab 12 of the MADEP Response
2002 – please see MADEP Response
Other than the information listed, to the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

f. List all federal and state environmental laws and regulations under which Respondent has reported to federal or state governments, including but not limited to: Toxic Substances Control Act, 15 U.S.C. §§ 2601 et s.., (TSCA); Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 1101 et s.., (EPCRA); and the Clean Water Act (the Water Pollution Prevention and Control Act), 33 U.S.C. §§ 1251 et seq. and equivalent state law.

Other than the information listed in response to other questions in this section, to the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

g. Identify (see Definitions) the federal and state offices to which such information was sent. Provide the full legal name and mailing address of the Respondent.

N/A – please see response to Question 6f.

7. Information Concerning Respondent's Association with the Whitney Barrel Company

NOTE: **All questions in this section refer to the period being investigated (1950-1985).**

a. Please describe Respondent's business association with the Whitney Barrel Company.

Based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at its Wilmington Plant during the relevant time period, Stepan has not identified any information that it was associated with the Whitney Barrel Company. As noted above and in the document attached at Tab 10 of the MADEP Response, the business records pertaining to the Wilmington

Plant were left at the premises when Stepan sold the Plant to Olin Corporation in 1980.

b. Did your association with the Whitney Barrel Company involve the buying of drums or other size/type of containers? Unless your answer is an absolute "No", please explain. Include but do not limit your response to:

i. the dates of each pickup and delivery;
ii. the type(s) of container(s);
iii. the size(s) of the container(s);
v. the condition of each container(s);
v. the contents (including but not limited to empty barrel residues) of each container including
(a) the name of each material;
(b) the chemical composition of each material;
(c) the physical state of each material (e.g., solid, sludge, liquid);
(d) the volume of each material; and
vi. please include all documentation relating to these transactions.

N/A - please see response to Question 7a.

c. Did your association with the Whitney Barrel Company involve the shipping, transport or selling of drums or other size/type of containers? Unless your answer is an absolute "No", please explain. Include but do not limit response to:

i. the dates of each pickup and delivery;
ii. the type(s) of container(s);
iii. the size(s) of the container(s);
iv. the condition of each container(s)
v. the contents (including but not limited empty barrel residues) of each container including
(a) the name of each material;
(b) the chemical composition of each material;
(c) the physical state of each material (e.g., solid, sludge, liquid);
(d) the volume of each material; and
vi. please include all documentation relating to these transactions.

N/A - please see response to Question 7a.

d. Did your association with the Whitney Barrel Company involve the cleaning and/or reconditioning of drums or other size/type of containers? Unless your answer is an absolute "No", please explain. Include but do not limit response to:

i. the dates of each pickup and delivery;
ii. the type(s) of container(s);
iii. the size(s) of the container(s);
iv. the condition of each container(s)
v. the contents (including but not limited to empty barrel residues) of each container including
(a) the name of each material;

(b) the chemical composition of each material;
(c) the physical state of each material (e.g., solid, sludge, liquid);
(d) the volume of each material; and

vi. please include all documentation relating to these transactions.

N/A - please see response to Question 7a.

e. Did the Whitney Barrel Company ever perform any other service for you or your company? Unless an absolute "No", please explain. Include but do not limit your response to:

i. the type of service(s);
ii. the frequency of the service(s);
iii. the date(s) of service(s); and
iv. please include any documentation relating to these transactions.

N/A - please see response to Question 7a.

f. Did Respondent ever pick up materials from other parties which were taken directly or indirectly to the Whitney Barrel Company (to be referred to as "customers" for purposes of this Information Request)? Unless your answer is an absolute "No", please explain.

N/A - please see response to Question 7a.

g. Identify (see Definitions) all persons and entities from whom Respondent picked up materials which were taken directly or indirectly to the Whitney Barrel Company.

N/A - please see response to Question 7a.

h. In addition to providing a list that identifies all such customers, provide for each pickup and delivery of materials to the Whitney Barrel Company:

i. the dates of each pickup and delivery;
ii. the type of container(s);
iii. the size of the container(s);
iv. the condition of each container(s);
v. for each customer's materials taken to the Whitney Barrel Company describe:
(a) the nature of each material;
(b) the chemical composition of each material;
(c) the physical state of each material(e.g.,solid, liquid);
(d) the volume of each material; and

vi. please include all documentation relating to your pickup and delivery of materials to the Whitney Barrel Company

N/A - please see response to Question 7a.

i. Identify (see Definitions) all former or current employees and all other persons who have any knowledge of or information about the subject matter of any of the foregoing questions or who had contact with Whitney Barrel Company.

N/A - please see response to Question 7a.

8. Information About Others

a. If you have information concerning the operation of the Site or the source, content or quantity of materials placed/disposed at the Site which is not included in the information you have already provided, provide all such information.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at the Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

b. If not already included in your response, if you have reason to believe that there may be persons, including persons currently or formerly employed by Respondent, who are able to provide a more detailed or complete response to any of these questions or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at the Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question. It is possible that records for the Wilmington Plant for the period being investigated are still maintained at the site of the Plant under the control of the current owner.

c. If not already provided, identify all persons, including Respondent's current and former employees, who have knowledge or information about the generation, use, purchase, treatment, storage, disposal, placement or other handling of materials at, or transportation of materials to, the Site.

To the best of its knowledge, based on a review of documents where such information would be expected to be found if it existed, and based on consultation with individuals with knowledge of Stepan's operations at the Wilmington Plant during the relevant time period, Stepan has not identified any information responsive to this question.

9. Compliance with This Request

a. Describe all sources reviewed or consulted in responding to this request, including but not limited to:

i. the names of all individuals consulted;
ii. the current job title and job description of each individual consulted;
iii. the job title and **job description** during the period being investigated of each individual consulted;
iv. whether each individual consulted is a current or past employee of Respondent;
v. the names of all divisions or offices of Respondent for which records were reviewed;
vi. the nature of all documents reviewed; and
vii. the locations where those documents reviewed were kept prior to review; and
viii. the location where those documents reviewed are currently kept.

Stepan's efforts in responding to this information request included, but was not limited to, review of the MADEP Response; review of documents kept in the Stepan corporate archives in Northfield, Illinois; and review of documents related to past litigation involving the Wilmington Plant, kept at the law firm of Goulston & Storrs in Boston, Massachusetts. In addition, the following former or current employees were consulted regarding their knowledge of information responsive to this information request:

Dr. James Hartledge, former Senior Vice President, Technology & Operations (retired)
Charles P. Riley, Jr., former Wilmington Plant Manager (retired)
Paul Cunha, former Wilmington Plant Process Engineer (retired)
Dave Milner, Director, Environmental Health & Safety, Northfield, Illinois
Gary Traverso, Plant Manager, Millsdale Plant, Elwood, Illinois
Mike Williams, Environmental Health & Safety Manager, Winder, Georgia
Dennis Pratt, Safety Manager, Fieldsboro Plant, Bordentown, New Jersey
Belen Fernandez, Safety Manager, Anaheim, California
Tom Szczeblowski, Plant Manager, Anaheim, California
Larry Whited, Plant Manager, Fieldsboro Plant, Bordentown, New Jersey
Tony Zoglio, Vice President of Manufacturing, Northfield, Illinois
Don Watson, Plant Manager, Maywood, New Jersey
Ed Hyer, Plant Manager, Winder, Georgia
Dan Muno, Environmental Health & Safety Manager, Northfield, Illinois
Steve Geydoshek, Safety Manager, Maywood, New Jersey
Roberta Mauser, Safety Manager, Millsdale Plant, Ellwood, Illinois
Scott Nelson, Environmental Health & Safety Manager, Northfield, Illinois
Dan Callahan, Environmental Health & Safety Manager, Fieldsboro Plant & Maywood, New Jersey

WELLS G & H

ENCLOSURE H – DECLARATION

I declare under penalty of perjury that I am authorized to respond on behalf of Stepan Company (Respondent) and that the foregoing is complete, true, and correct.

Executed on MARCH 16, 2004

Signature

Carol A. Bynoe, Esq.

Senior Attorney

OFFICIAL SEAL
NANCEE A DELICH
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES: 09-19-07

ATTACHMENT 1.

STEPAN COMPANY

Officers:

F. Quinn Stepan	**Chairman and Chief Executive Officer**
F. Quinn Stepan, Jr.	**President and Chief Operating Officer**
F. Samuel Eberts III	**Vice President, General Counsel and Secretary**
James E. Hurlbutt	**Vice President and Corporate Controller**
Kathleen M. Owens	**Assistant General Counsel and Assistant Secretary**
Frank Pacholec	**Vice President, Research and Development**
John V. Venegoni	**Vice President and General Manager – Surfactants**
Robert J. Wood	**Vice President and General Manager – Polymers**
Anthony J. Zoglio	**Vice President – Manufacturing and Engineering**

Directors:

F. Quinn Stepan
F. Quinn Stepan, Jr.
Paul H. Stepan
Thomas F. Grojean
Robert G. Potter
Robert D. Cadieux

STEPAN CANADA INC.

Mailing Address/Telephone:

3800 Longford Mills Road
Longford Mills, Ontario
Canada L0K 1L0
(705) 326-7329 – Telephone
(705) 326-4623 – Fax

Officers

James E. Hurlbutt - President
Kathleen M. Owens – Secretary

Directors
F. Quinn Stepan
Christopher Turney

Law Firm

Christopher Turney
Fraser Milner Casgrain
1 First Canadian Place
100 King Street West
Toronto, Ontario
Canada M5X 1B2
(416) 863-4511 - Telephone
(416) 863-4592 – Fax
www.fmc-law.com

STEPAN MEXICO, S.A. de C.V.

Mailing Address/Telephone:

Stepan Mexico, S.A. de C.V.
P.O. Box 2027
Brownsville, Texas 78520
011 52 868 810 1227 – Telephone
011 52 868 810 1377 - Fax

Directors	Alternate
Charles A. Brown	**F. Samuel Eberts III**
Samuel Garcia Cuellar	**Eduardo Diaz Guzman**
Pedro W. Buchanan	**Edgardo Garcia Villanueva**
Luis Alberto Cano Marroquin	**James E. Hurlbutt**

Officers	Title	Alternate
Charles A. Brown	**Chairman and Agent**	**F. Samuel Eberts III**
Samuel Garcia Cuellar	**Vice President**	**Eduardo Diaz Guzman**
Pedro W. Buchanan	**Secretary**	**Edgardo Garcia Villanueva**
Luis Alberto Cano Marroquin	**Treasurer**	**James E. Hurlbutt**

Law Firm:

Edgardo Garcia-Villanueva
Villanueva & Associates, S.C.

Pedro W. Buchanan
Buchanan, Solís & Pelletier, S.C.
Corporativo Reforma Laureles
Paseo de los Laureles 458
Bosques de Las Lomas
05120 México, D.F.
México
Telephone: (52-55) 2167.2222
Fax: (52-55) 2167.2777
E-Mail: buchanan@bsplaw.com

STEPAN EUROPE

Mailing Address/Telephone:
B.P. 127
38340 Voreppe (Grenoble)
France
011 33 7650 8133 - Telephone
011 33 7656 7165 - Fax

Board of Directors:

Edward H. Buening -	**Chairman of the Board**
Georges Broll	
James E. Hurlbutt	
Gregory Servatius	
F. Quinn Stepan	
F. Quinn Stepan, Jr.	

Officers:

Edward H. Buening	**Chairman and President**
Georges Broll	**Vice President Finance & Administration**
Jean Charles Leroy	**Director European Sales**
Lionel Godefroy	**Director Regulatory Affairs**
Darrell Hampshire	**Director Manufacturing/Engineering**
Alan Halman	**Director Purchasing**
John E. Hibbs	***Director Product Development***
Philippe Pelloux-Prayer	**Secretary-General**

Law Firm:
Andersen Legal
Tour Crédit Lyonnais
129, rue Servient
69326 LYON Cédex 03 France
011 33 4 78 63 17 17 – Telephone
011 33 4 78 63 17 00 – Fax

STEPAN DEUTSCHLAND GmbH

Mailing Address/Telephone:

Stepan Deutschland GmbH
Rodenkirchener Strasse 400
D-50389 Wesseling, Deutschland
011 49 223 270 5216 - Telephone
011 49 223 270 5220 - Fax

Officers:

Edward H. Buening	**Chairman and President**
Georges Broll	**Vice President Finance & Administration**
Jean Charles Leroy	**Director European Sales**
Lionel Godefroy	**Director Regulatory Affairs**
Darrell Hampshire	**Director Manufacturing/Engineering**
Alan Halman	**Director Purchasing**
John E. Hibbs	**Director Product Development**
Gino Rombey	**Plant Manager**

Partners:

Edward H. Buening
Georges Broll
Gino Rombey

Law Firm:

Hölters & Elsing
Immermannstrasse, 40
40210 Düsseldorf, Germany
011 49 211 36 78 70 - Telephone
011 49 211 35 39 28 - Fax

STEPAN UK Ltd.

Mailing Address:

Bridge House, Bridge Street
Stalybridge
Cheshire SK 15 1PH (UK)
011-44-161-338-551 (Telephone)
011-44-161-338-4245 (Fax)

Officers:

Edward H. Buening	**Chairman and President**
Georges Broll	**Vice President – Finance & Administration**
Jean Charles Leroy	**Director European Sales**
Lionel Godefroy	**Director Regulatory Affairs**
Darrell Hampshire	**Director Manufacturing and Engineering**
Alan Halman	**Director Purchasing**
John Hibbs	**Director Product Development**
David Mulliner	**Financial Controller/Company Secretary**

Directors:

Edward Buening - Chairman of the Board
Georges Broll
Darrell Hampshire
John Hibbs
James E. Hurlbutt
F. Quinn Stepan, Jr.

Law Firm:

Jones, Day, Reavis & Pogue
Bucklersbury House
3, Queen Victoria Street
London EC4N 8NA, England
011 44 20 7236 3939 – Telephone
011 44 20 7236 1113 – Fax

STEPAN COLOMBIANA de QUIMICOS S.A.

Mailing Address:

STEPAN COLOMBIA
Calle 114A, No. 19-12
Santa Barbara
Santa Fe de Bogota
Colombia
011-57-68-720-122 (Telephone)
011-57-68-720-331 (Fax)

Board of Directors

Principals	Alternates
F. Quinn Stepan, Jr.	F. Samuel Eberts III
Marta Cremaschi	Carol A. Bynoe
James E. Hurlbutt	Kathleen M. Owens
Charles A. Brown	Andrés Molina

Officers

Juan Felipe Vera C.	President
Carolina Suárez M.	Secretary

General Manager

Andrés Molina	Principal General Manager
Teresa del Pilar Acevedo-Callejas	First Alternate
Oscar Darío Arango-González	Second Alternate
Carlos Alberto Gómez-Tejada	Third Alternate

Law Firm:

Antonio Duarte, Esq./Maria Clara Lopez
Raisbeck, Lara, Rodriguez & Rueda (Baker & McKenzie)
Avenida 82 No. 10 –62, 6th Floor
Bogota, D.C. Colombia
011 571 644 9595 - Telephone
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STEPAN PHILIPPINES, INC. (J.V.)

Mailing Address/Telephone:
Stepan Philippines, Inc. (J.V.)
7th Floor NOL Tower
Commerce Avenue
Madrigal Business Park
Ayala Alabang
Muntinlupa City, Philippines
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011-63-43-727-2830 (Fax)

Directors:

Helen R. Osas
Antonio R. Ng
Danilo M. Coronacion
F. Quinn Stepan, Jr.
Mark F. Mydlach
James E. Hurlbutt

Officers:

Helen R. Osias	**Chairman**
F. Quinn Stepan. Jr.	**President**
Mark F. Mydlach	**Vice President and General Manager**
Haron P. Alonto	**Corporate Secretary**
Delfin S. Catapang, Jr.	**Assistant Corporate Secretary**
Ingrid S. Dungca	**Acting Treasurer**

STEPAN QUIMICA LTDA

Stepan Quimica Ltda
Rua Pelotas, 464
04012-001- São Paulo – SP
Brazil

011 55 11 5573 0120 - Telephone
011 55 11 5539 4587 - Fax

Officers

Márcia Regina Umbelino de Souza

Directors

None

Shareholders

Stepan Company - (349.999 shares)

Maria Lúcia de Almeida Prado e Silva
(Partner of Demarest & Almeida) – 1 share

Attorneys:

Demarest & Almeida Advogados
Av. Pedroso de Moraaes, 1201
04519-001 – São Paulo – SP
Brazil

NANJING STEPAN JINLING CHEMICAL LIMITED LIABILITY (J.V.)

Mailing Address:

Nanjing Stepan Jinling Chemical Limited Liability (J.V.)
Room 406, East Building
No. 358 Herigyi Road
Nanjing Economic and Technology Development Zone
Nanjing City
People's Republic of China

Legal Representative:

Mr. Li Weichen

BOSTON
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HAMBURG
HONG KONG
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SAN FRANCISCO
SILICON VALLEY
SINGAPORE
TOKYO
WASHINGTON, D.C.

December 20, 2002

031 529-0001

Via Certified Mail

Chris Pyott
Massachusetts Department of Environmental Protection
Metropolitan Boston – NE Regional Office
205A Lowell St.
Wilmington, MA 01887

Re: Stepan Company;
Wilmington – 51 Eames Street, Request for Information
DEP RTN 3-0471

Dear Mr. Pyott:

This letter is Stepan Company's response to the MADEP's October 18, 2002 request for information concerning the 51 Eames Street site in Wilmington, Massachusetts. Stepan previously made verbal and written requests, pursuant to 310 CMR 40.0167(2), to extend the deadline for responding until December 31, 2002, and therefore this response is timely.

As you may be aware, Stepan sold the 51 Eames Street site to Olin in 1980, and therefore the information requested by MADEP from Stepan is at least 22 years old. In responding to the information request, Stepan interviewed persons with knowledge of the site and identified records that Stepan believes provide a comprehensive response to the MADEP information request with regard to the period of Stepan's operations at the site, which records are attached hereto.

Information and/or Document Requested:

a. Please provide a complete list of all raw materials used at the 51 Eames Street facility during Stepan Company's operations at the site. For any raw materials that are comprised of a mixture of chemical compounds, please provide information (such as Material Safety Data Sheets) that identify the components of such materials.

Response: Please see Attachments # 1, 2, 3, 4, 6, 9 and 10.

b. Please provide a complete list of all products manufactured at the 51 Eames Street facility, and the individual chemical components of those products.

0059-0039

Response: For responsive documents with regard to the period of Stepan's operations at the site, please see Attachments # 1, 2, 3, 6, 9 and 10.

c. Please provide a complete list of all chemical wastes and by-products that are known to have disposed of at the 51 Eames Street facility.

Response: For responsive documents with regard to the period of Stepan's operations at the site, please see Attachments # 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.

Please contact me if you have any further questions.

Very truly yours,

Bruce Taterka
of LATHAM & WATKINS

Enclosures
cc: C. Bynoe, Stepan Company, with enclosures

CERTIFICATION OF SUBMITTAL REQUIRED AT 310 CMR 40.0059(1) AND (6)

Re:

REQUEST FOR INFORMATION

I, Carol A. Byrne, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the person or entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

Date: 12-17-2002

By: Carol A. Byrne
Senior Attorney

Witness: Richard L. Kissy

INTER OFFICE MEMO Olin

RECEIVED
SEP -6 1983
V. NORWOOD

TO V. Norwood AT Charleston DATE August 30,1983

FROM R. J. McBrien AT Wilmington COPY TO

SUBJECT Wilmington -- Products and Raw Materials

Attached is the continuation of the initial listing (see memo 8/29/83). This final listing has been compiled from information available from the laboratory files.

Several products are listed in old sales booklets but information on their composition or quantity (whether plant or laboratory produced or re-sale items) is unavailable. These are:

- ACETONE SEMICARIZONE
- FI - LINE
- POLY - SPERSE LC-20
- POLY - MAG
- POLY - BRITE

Ronald J. McBrien

Ronald J. McBrien

RJM:jl

0059-0050

PRODUCT	RAW MATERIALS	BY-PRODUCTS	REMARKS
dd) De-Tac NP-27	Arquad Sodium Acetate Natrosol Ethylene glycol	None	• Source - G. Mc
ee) Dilaurylthio-propionate (Wytox LT)	3,3 thiodipropionic acid PTSA	Lauryl alcohol	• Source - G. Mc
ff) Poly-Sperse AP-2	Liqro Tall oil Triiso propanolamine Process oil NaOH (20%)	None	• Source - G. Mc
gg) Barium Azocarbonate (Expandex 177)	Barium oxide Hydrazodicarbonamide Acetone	Acetone filtrate	• Source - G. Mc
hh) TMT (2-MT)	MEA CS_2 H_2SO_4, HCI Sodium hypochlorite	Na_2SO_4 H_2SO_4	• Source - G. Mc
ii) Poly-Phen 188	Formaldehyde Phenol Urea		• Source - G. Mc

OC-10000A

INTER OFFICE MEMO **Olin**

RECEIVED
SEP -2 1983
V. NORWOOD

TO V. Norwood AT Charleston DATE August 29,1983

FROM R. J. McBrien AT Wilmington COPY TO

SUBJECT Wilmington --Products and Raw Materials

Attached is a listing of the current products/raws and others which I can recall from memory (since 1966). There are several more products which I have identified in old sales booklets from the '50's. Several long-term supervisory and technical employees are attempting to recall details on their composition. When this latter information is available, I'll send it to you.

Ronald J. McBrien

Ronald J. McBrien

RJM:jl

0059-0053

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR _____ OTHER _____

PRODUCT	RAW MATERIAL	BY-PRODUCTS/WASTE	REMARKS
a) Azodicarbonamide (Kempore R)	hydrazine (65%) Urea Sodium chlorate Sulfuric acid (93%) Sodium bromide Sodium sulfite	Ammonia, anhydrous HCl, HBr, NaBr Na_2SO_4, NaCl $(NH_4)_2SO4$ Urea H_2SO_4	[redacted] process •Operated 1956 - present
b) Azodicarbonamide	----	----	•Process used up 1967 used sodium dichromate in li of sodium chlora Dilute hydrazine (3.2-3.5%) also used
[redacted] Dinitrosopenta[redacted] ylenetetramine (Opex R)	Formaldehyde NH_3 (from azo process) hexamethylenetetramine sodium nitrite hydrochloric acid ammonium hydroxide rubber processing oil	NaCl Formaldehyde processing oil $NaNO_3$	[redacted] process •Amorphous silica was previously added as a fille •Operated 1953 - present
) Trisnonylphenyl phosphite TNPP (Wytox 312)	nonyl phenol PCl_3 Vikoflex (epox.soy-bean oil)	HCl (absorbed in water and used in-plant or sold)	[redacted] •Operated 1965 - present •Oxalic acid used to rework off-sp W-312 in to W-34
) Polymeric phosphite (Wytox 345/355/438)	nonyl phenol PCl_3 paraformaldehyde	HCl (absorbed in water and used in-plant or sold)	[redacted]
) Actafoam R	2 - ethylhexoic acid DOP Zinc oxide potassium oleate	Element from polishing filter	[redacted] •Operated 1963 - present •Early process pro duced sludge cake in filter
) Actafoam R-5	2 - ETH DOP mineral spirits KOH CdO, ZnO	Element from polishing filter	•Discontinued
) Actafoam XR-34	2 - ETH DOP ZnO potassium oleate MEA Lead octoate Aerosil 380	None	•Discontinued
Actafoam R-1	2 - ETH DOP, KOH ZnO mineral spirits	Element from polishing filter	•Discontinued

PRODUCT	RAW MATERIALS	BY-PRODUCTS/WASTE	REMARKS
j) Actafoam R-10	2 - ETH ZnO mineral spirits	Element from polishing filter	•Discontinued
k) Hydrazine (and semicarbazide)	Urea Chlorine NaOH Sulfuric acid	Sodium Sulfate Sodium Chloride Ammonium Sulfate Urea	•Discontinued •Operated 1963 - 1970
l) [redacted] plasticizer dispersions	Azodicarbonamide DOP or Santicizer 711 Additives (see remarks)		•6 or 8 varieties •Generally 50/50 a and plasticizer w various wetting agents, viscosity improvers, etc.
m) Dioctyldiphenyl-amine (Wytox ADP-F and Lestane)	diphenylamine diisobutylene aluminum chloride Microcel E NaOH	DIB DODPA aluminum hydroxide NaCl	•Operated 1962 - 1971
n) 4,4' oxybisben-zenesulfonyl-hydrazide (Nitropore OBSH)	chlorosulfonic acid diphenyl oxide hydrazine (65%) ammonium hydroxide	HCl Sulfuric acid	•Operated 1969 - 1974 (chloride salt also produced)
o) [redacted] (Pandex 5 PT)	Benzonitrile Sodium azide Sodium nitrite Ammonium chloride hydrochloric acid dimethyformamide	Sodium chloride Sodium nitrate dimethyl formamide benzonitrile	[redacted] •Produced in pilot plant until 1983
p) N-Nitrosodiphenyl-amine (Wiltrol N)	diphenylamine Sodium nitrite Sulfuric acid	Sodium nitrite Sodium sulfate N-Nitrosodi-phenylamine	•Discontinued •Operated 1965 - 1967
q) Phenol/Formalde-hyde & Urea/for-maldehyde resins (Poly-Phen 201,202, 218)	urea phenol formaldehyde cashew nut shell liquid		•Discontinued •Operated 1961 - 1967
[redacted] (RIA NC,CS,66)	urea processing oil Calcium stearate Aerosil	None	[redacted] •Grinding operation only
phthalic anhydride ground (trol P)	phthalic anhydride processing oil	None	•Discontinued appro 1970 •Grinding operation only

PRODUCT	RAW MATERIALS	BY-PRODUCTS/WASTE	REMARKS
) dioctyphthalate butylphthlate	phthalic anhydride 2 - ethylhexanol butylalcohol		•Discontinued •Operated 1955 - 1961
) [redacted] phenol (Wytox PAP)	dinonyl phenol nonyl phenol PTSA paraformaldehyde mineral spirits	Element from polishing filter	[redacted] •Operated 1971 - present
) Polmeric phenol System (Wytox PDA)	same as Wytox PAP except Wytox ADP (m) added	Element from polishing filter	•Discontinued 19 or 1982
) [redacted] hindered phenol (Wytox PAP-SE)	dinonyl phenol nonyl phenol paraformaldehyde PTSA mineral seal oil hexylene glycol potassium oleate	Element from polishing filter	[redacted] •Operated infre-quently
) [redacted] phosphite (Wytox 320)	Nonyl phenol dinonyl phenol	HCl (absorbed in water)	[redacted]
) Wytox 313	Nonyl phenol PCl_3 Triisopropanolamine	HCl (absorbed in water)	•Discontinued •Very small volu produced
) Modified Azo products	Azodicarbonamide additives	None	Blending operat only
) Actafoam F-2 Powder	Zinc stearate sodium stearate	None	Mixing Operatio
) Actafoam F-2 Paste	same as F-2 Powder (aa) except Drakol #35 oil added	None	Mixing Operatio
) Polycone 1000	Silicone (Polycone 125X) glycerine A quarex L Antifoam	None	Mixing Operatio

U.S. V. CHARLES GEORGE 16MAR88
NAME _____
______CO# _____ SIG _____

JCG078

DEPOSITION EXHIBIT

June 19, 1979

Mr. Daniel Bourque
Commonwealth of Massachusetts
Division of Water Pollution Control
600 Washington Street
Boston, Massachusetts 02108

Dear Mr. Bourque:

The following is a listing of raw materials that are used by Stepan Chemical Company, Wilmington per your request of June 1st.

AEROSIL 380	MICROCEL E	SODIUM AZIDE
AMMONIA, 27%	MINERAL SEAL OIL	SODIUM BICARBONATE
AMMONIUM CHLORIDE	MINERAL SPIRITS, ODLS.	SODIUM BROMIDE
ANTIFOAM	MURIATIC ACID, 20°	SODIUM CHLORATE
BENZONITRILE	NITROGEN	SODIUM NITRITE, 40%
CALCIUM OXIDE, HP	NONYLPHENOL	SODIUM STEARATE
CALCIUM STEARATE	NOPCO 1444-B	SODIUM SULFITE
DIMETHYLFORMAMIDE	NUOSTABE V-1444	SULFURIC ACID, 66°
DINONYLPHENOL	OIL, RUBBER PROCESSING	SUNPAR 120
DOP	PARAFORMALDEHYDE POWDER	SWS 233
2-ETHYLHEXOIC ACID	PARAPLEX G-62	P-TOLUENESULFONIC ACID
FORMALDEHYDE, 50%	PHOSPHOROUS TRICHLORIDE	UREA
GLYCERINE, 95%	POTASSIUM F-80	VIKOFLEX 7170
HEXAMINE, TECH.GRANULAR	POTASSIUM STEARATE	ZINC OXIDE
HISIL #233		ZINC STEARATE
HYDRAZINE, 65%		

If I can supply any further information, please contact me.

Very truly yours,

STEPAN CHEMICAL COMPANY

Ronald J. McBrien
Plant Manager

RMc/ss

0059-0058

NP NATIONAL POLYCHEMICALS INC
WILMINGTON MASSACHUSETTS 01887
telephone (617) 933-4240 cables NAPOL WILMINGTONMASS

August 27, 1971

Mr. John B. Casazza, Acting Director
Water Resources Commission
The Commonwealth of Massachusetts
Leverett Saltonstall Building
Government Center
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Casazza:

In reply to your letter of August 17, I am enclosing a copy of a letter of March 3, 1971, from Mr. Gilbert T. Joly, District Engineer, Department of Public Health, Commonwealth of Massachusetts, which deals with the disposal of calcium sulfate waste at an approved landfill area in Tyngsboro operated by Charles George Company.

In reference to the starting date of September 15, we expect full operation, including the dewatering filter, prior to that date. We have been operating for a period of approximately eight weeks on a total plant treatment basis and expect to continue without any major problems.

I have contacted several disposal contractors in regard to the oil accumulation in the brook and hope to have the information that you desire in a short time. I have enclosed copies of my letters to these contractors and would appreciate it if you could supply the names of several others that I could contact for a job survey.

I have also enclosed a copy of a letter from the Department of Public Health, dated July 16, 1971, which is the result of an investigation by a consulting firm, Dana F. Perkins & Sons, Inc., who have proposed another method of dewatering the calcium sulfate slurry. This phase of the project is still under investigation and is not yet part of our waste treatment plant. I will continue to forward additional information as it is received.

If I can supply any further information, please contact me.

Very truly yours,

NATIONAL POLYCHEMICALS
A Division of Stepan Chemical Company

Ronald J. McBrien
Plant Manager

STEPAN A SUBSIDIARY OF STEPAN CHEMICAL COMPANY

dfm

LICENSE AGREEMENT

LICENSE AGREEMENT entered into as of the 28th day of September, 1968 by and between STEPAN CHEMICAL COMPANY, a Delaware corporation ("Stepan"), FISONS CORPORATION, a Massachusetts corporation ("Fisons Corp."), and FISONS LIMITED, a United Kingdom corporation ("Fisons Ltd.").

WHEREAS, Stepan, Fisons Corp., and Fisons Ltd. wish to enter into the License Agreement with respect to the Hydrazine Process, referred to in the recitals and in Paragraph 9(f) of the Agreement between Stepan, Fisons Corp. and Fisons Ltd., dated September 18, 1968 ("Related Agreement").

AND WHEREAS the term "the Hydrazine Process" in this Agreement and the Related Agreement means a process for (i) the manufacture of hydrazine salts by the reaction of bleach and ammonia to give chloramine which is reacted with more ammonia in the presence of a carbonyl compound to give the azine, followed by separation and hydrolysis of the azine to hydrazine salts (hereinafter called "Stage

One") and (ii) the conversion of azine to hydrazine and the concentration of hydrazine hydrate solutions (hereinafter called "Stage Two").

NOW, THEREFORE, in consideration of the foregoing premises and of the mutual covenants hereinafter contained, and subject to the completed closing of the Related Agreement, the parties hereto hereby agree as follows:

Preliminary Information

1. Upon (i) Fisons Ltd.'s successful commercial operation of Stage One of the Hydrazine Process and (ii) Fisons Ltd.'s completion of pilot plant activity with respect to Stage Two and its reaching a determination as to whether Stage Two may profitably be put into commercial operation in the United States, Fisons Corp. will so notify Stepan in writing. Fisons Corp. will thereupon (on receipt of $50,000 from Stepan as part of the down payment specified in Paragraph 6) as quickly as practicable and in any event within three months send to Stepan, in writing and subject to Paragraph 5 hereof, all information available to Fisons Ltd. relating to both Stages of the Hydrazine Process as shall be reasonably necessary for Stepan to evaluate the economic advisability of Stepan's building a hydrazine

plant using Stage One or both Stages of the Hydrazine Process and Stepan's taking such other action as would be required for it to utilize Stage One or both Stages of the Hydrazine Process in the United States. Such information shall include quantitative data as to methods and rates of production and the nature and amount of all items which contribute to the cost of production under the Hydrazine Process, and shall also include any studies or reports prepared by or for Fisons Ltd. on the profitability of the Hydrazine Process. Fisons Ltd. will allow representatives of Stepan access at all reasonable times to Fisons Ltd.'s plant using the Hydrazine Process for such inspection and investigation as Stepan shall reasonably request in order to make the aforesaid evaluation.

Grant of Option

2. At any time within twelve months after Stepan's receipt of the notice referred to in Paragraph 1, Stepan shall have the option to acquire from Fisons Corp. the right to utilize Stage One or both Stages of the Hydrazine Process in the United States. Stepan may exercise its options for Stage One and Stage Two separately or together at any time

during said period. Any exercise of option by Stepan shall be by serving written notice upon Fisons Corp.

Exclusivity of Option and Non-Exercise

3. (a) Fisons Corp. or Fisons Ltd. shall not from the date of this Agreement until the expiration of the twelve-month period referred to in paragraph 2, license, sell or otherwise make available to anyone within the United States other than Stepaninformation, assistance, patents, trade secrets, know-how or other rights as described in paragraph 4(a) below with respect to either Stage of the Hydrazine Process unless Stepan shall have notified Fisons Corp. in writing prior to the expiration of said period of its decision not to exercise its option as to such Stage.

(b) In the event Stepan notifies Fisons Corp. that it does not intend to exercise its option as to Stage One or Stepan has not exercised its option as to Stage One by the end of the twelve-month period, Fisons Corp., Fisons Ltd. and Stepan shall have no further obligations to one another with respect to either Stage One or Stage Two of the Hydrazine Process or any other rights hereunder.

(c) In the event Stepan notifies Fisons Corp. at any time within the twelve-month period that it does intend to exercise its option as to Stage One, Stepan's option as to Stage Two shall remain fully in force pursuant to the terms of this Agreement for the remainder of the twelve-month period, and shall remain in force thereafter until seven years after the date of Stepan's receiving notice under paragraph 1. Provided, that Stepan shall have no right to exercise its option as to Stage Two after the end of the twelve-month period if at the time Fisons Corp. gives the information to Stepan under paragraph 1, Fisons Corp. satisfies the burden of showing that the process technology of Stage Two is ready for commercial application in the United States; further provided, that Stepan's option as to Stage Two will expire as of twelve months after any time within the seven year period at which Fisons Corp. has given Stepan information which satisfies the said burden. In the event that during the seven year period Fisons Ltd. shall have developed any information that might reasonably have a material bearing on the process technology of Stage Two, then Fisons Corp., will give to Stepan as quickly as practicable information relating thereto as described in paragraph 1.

(d) In the event that Stepan shall exercise its option as to either Stage, Fisons Corp. or Fisons Ltd. shall not for a period of eighteen months from the exercise of the option, license, sell, or otherwise make available to exploit to anyone within the United States other than Stepan, information, assistance, patents, trade secrets, know-how or other rights as described in paragraph 4(a) below with respect to such Stage; provided, that this restriction shall not apply with respect to any exercise by Stepan of its option as to Stage Two more than twelve months after Stepan's receipt of the notice referred to in paragraph 1.

Exercise of Option

4. Upon Stepan's exercise of its option as to either Stage pursuant to the aforesaid provisions and subject to the payments secured under paragraph 6, the obligations of Fisons Corp., Fisons Ltd. and Stepan (in addition to those stated elsewhere herein) shall be as follows:

(a) Fisons Corp. will provide Stepan with all information relating to such Stage or Stages of the Hydrazine Process as to which Stepan has exercised its option as shall be reasonably necessary to enable Stepan to construct and operate an efficient plant

to utilize such Stage or Stages of the Hydrazine Process within the United States. In particular, without limiting the foregoing, Fisons Corp. will provide Stepan with such operating instructions as are being used by Fisons Ltd. for its plant using such Stage or Stages of the Hydrazine Process and with further guidance taking into account the scale of production of Stepan's proposed plant; information as to the methods of construction, materials used, dimensions, flow rates, process conditions, reaction times, and operating techniques of all equipment used in Fisons Ltd's said plant; all engineering drawings and technical specifications or descriptions relating to such Stage or Stages of Fisons Ltd.'s Hydrazine Process and the plant and equipment used therein; and such engineering and technical consultation by the qualified employees of Fisons Ltd. as Stepan shall reasonably request or require. In addition for a reasonable period Fisons Ltd. will allow representatives of Stepan access at all reasonable times to Fisons Ltd's said plant for such inspection and investigation as Stepan shall reasonably request, in order to enable Stepan to build and commission a plant operating such Stage or Stages of the Hydrazine Process in the United States, and to that end will arrange for the instruction in England of representatives of Stepan in the use of such Stage or Stages of the Hydrazine Process.

Fisons Ltd. will send its engineers and other necessary personnel to the United States (entirely at Stepan's expense except that the salaries of Fisons Ltd.'s employees shall be paid by Fisons Ltd.) for up to a maximum of 500 working man hours (or such longer necessary period and on such terms as Fisons Ltd. may agree) to assist Stepan in initiating the operation of its hydrazine plant in the United States. Fisons Corp. will license, sell or otherwise make available to Stepan for as long as Stepan desires, at no cost to Stepan in addition to those payments required under this Agreement, any patents, trade secrets, know-how or other rights of any kind (other than trademarks) relating to such Stage as such Stage will have been developed by Fisons Ltd. at the time of Stepan's exercise of its respective option as to such Stage, to the extent that these are required for Stepan's operation of such Stage of the Hydrazine Process in the United States pursuant to this subparagraph (a).

(b) Stepan will inform Fisons Corp. immediately in the event Stepan obtains knowledge that any person is infringing any patent of Fisons Corp. or Fisons Ltd. relating to such Stage or Stages of the Hydrazine Process as Stepan has acquired, but

Stepan shall have no further obligation to take any legal or other action in connection therewith.

(c) For the Agreed Term defined below, Fisons Corp. will give, license or otherwise make available in the United States at no cost to Stepan information, assistance, patents, trade secrets, know-how or other rights (except trademarks) as described in subparagraph (a) with respect to any routine improvements developed by Fisons Ltd. in such Stage or Stages of the Hydrazine Process as to which Stepan has exercised its option. Stepan shall be entitled to use such patents, trade secrets or know-how for as long as it desires but the obligations of Fisons Corp. and Fisons Ltd. shall determine with the Agreed Term.

The "Agreed Term" as to either stage of the Hydrazine Process shall be eight years from the date of Stepan's exercise of its option as to such Stage.

For the Agreed Term Stepan will give, license

or otherwise make available at no cost to Fisons Corp. the same benefits as described above with respect to any routine improvements developed by Stepan in such Stage or Stages of the Hydrazine Process as Stepan has acquired. The entitlement of Fisons Corp. to use the said benefits shall be unlimited but the obligations of Stepan shall determine with the Agreed Term.

(d) Fisons Corp. will give, license or otherwise make available to Stepan any improvements agreed to be major improvements developed by Fisons Ltd. prior to the expiration of the Agreed Term in such Stage or Stages of the Hydrazine Process as Stepan has acquired. As to improvements developed within two years of Stepan's exercise of its option as to such Stage, the aforesaid grant shall be at no cost to Stepan, but as to improvements developed thereafter the grant shall be at normal commercial terms.

For the purposes of this clause an improvement is a "major improvement" if it results in the manufacturing cost of the product whether at an intermediate stage or as a saleable product being reduced by 20% or more.

Normal commercial terms shall be not less favorable to Stepan than the most favorable terms granted by Fisons Ltd. to any third party (which shall not include any subsidiary of Fisons Ltd., the word subsidiary meaning any company of which not less than 50% of the voting stock is controlled directly or indirectly by Fisons Ltd.).

During the like periods and subject to the same terms (including the grant at no cost of improvements developed within the two year period) Stepan shall reciprocally grant a license, sell or otherwise make available to Fisons Corp. all the rights described in the immediately preceding paragraph in respect of any improvements agreed to be major improvements developed by Stepan or by National Polychemicals Inc. in such Stage or Stages of the Hydrazine Process as to which Stepan has exercised its option.

(e) Fisons Corp. will inform Stepan of any existing and improved technology which is developed by Fisons Ltd. to a point which has commercial application in the production of:

(i) the hydrazine derivatives listed in Exhibit A,

(ii) hydrazine derivatives the dominant use of which is in those fields of use to which the sales of National Polychemicals Inc. are principally directed at the date of this Agreement, and

(iii) all other hydrazine derivatives except (aa) derivatives having an application significant to Fisons Corp. or Fisons Ltd. in the fields of pharmaceuticals or agriculture (pharmaceuticals being deemed to include both human medicine and animal health products) or (bb) so long as Fisons Ltd. or Fisons Corp. are not licensing the technology relating to such derivatives to any person other than subsidiaries of Fisons Ltd.

prior to the expiration of the Agreed Term as to Stage One, and Fisons Corp. will give Stepan such information relating to any such new process as will reasonably enable Stepan to estimate its commercial potential and profitability. Thereafter, at Stepan's request and subject to normal commercial terms to be agreed, Fisons Corp. will grant a license, sell or otherwise make available to Stepan information, assistance, patents, trade secrets, know-how

or other rights (other than trademarks) as described in subparagraph (a) to enable Stepan to use any such process for the production of the said hydrazine derivatives.

Normal commercial terms shall not be less favorable to Stepan than the most favorable terms granted by Fisons Ltd. to any third party (which shall not include any subsidiary of Fisons Ltd.).

During the like period and subject to the same terms Stepan shall reciprocally grant a license, sell or otherwise make available to Fisons Corp. all the rights described in the immediately preceding paragraph in respect of any improved technology in the production of the said derivatives which may be developed by Stepan or by National Polychemicals Inc.

5. Stepan agrees that notwithstanding any other provisions of this Agreement:

(a) In the event it does not exercise its option pursuant to paragraph 2, it will not (and will bind its employees not to) publish, disclose or in any way communicate to anyone else, or make use of itself (or themselves) any information obtained from Fisons Corp. or Fisons Ltd. under this Agreement, until such information has been publicly disclosed by Fisons Corp. or Fisons Ltd.

(b) In the event it does exercise its option pursuant to paragraph 2, it will not (and will bind its employees not to) publish, disclose or in any way communicate to anyone else (but it may make use of itself) any information obtained from Fisons Ltd. or Fisons Corp. under this Agreement, until such information has been publicly disclosed by Fisons Ltd. or Fisons Corp., nor will it sublicense or in any way grant to any other person any license or other rights to patents, or other properties of Fisons Corp. or Fisons Ltd. acquired hereunder.

(c) In either event, it will not at any time directly or indirectly contest, or assist in contesting, the patent claims of any patent issued or any patent issuing from any patent applications of Fisons Corp. or Fisons Ltd. relating to the Hydrazine Process. Nothing in the preceding sentence shall prohibit Stepan from taking out any patent relating to the Hydrazine Process, provided that such action does not involve any contest to the patent claims of any patent issued or any patent issuing from any patent application of Fisons Corp. or Fisons Ltd. relating to the Hydrazine Process.

Fisons Corp. and Fisons Ltd. agree that they will not (and will bind their employees not to) publish, disclose or in

any way communicate to anyone, any information obtained from Stepan pursuant to this Agreement, nor will they sublicense or in any way grant to anyone any license or other rights to patents, trademarks or other properties of Stepan acquired pursuant to this Agreement.

Payment

6. Stepan shall pay to Fisons Corp. the following amounts:

(a) In consideration of the grant of exclusive rights to Stepan under paragraphs 3(a) and 3(d), the sum of $150,000. $50,000 of said amount shall be paid within fourteen days of Stepan's receipt of notice under paragraph 1 hereof, said $50,000 to be returned to Stepan in the event it decides not to exercise its option as to Stage One under paragraph 2. The additional $100,000 shall be paid forthwith upon the exercise of Stepan's option as to Stage One pursuant to paragraph 2.

(b) Upon the exercise of its option as to Stage One, royalties at the rate of $0.03 per pound of hydrazine produced (as hereinafter defined) by Stepan through such Stage One. Stepan shall irrevocably pay to Fisons Corp. minimum royalties for Stage One of not less than $43,000 as of two years after

the date of Stepan's exercise of its option as to Stage One pursuant to paragraph 2 hereof, not less than $64,500 as of three years after said date, not less than $86,000 as of four years after said date, not less than $107,500 as of five years after said date, not less than $129,000 as of six years after said date and not less than $150,000 as of seven years after said date. Stepan shall only be required to pay royalties in excess of said minimum amounts and after said seven-year period, if and so long as Fisons Ltd. has in force a United States patent basic to Stage One of the Hydrazine Process, said amounts and said period being deemed commensurate (absent such patent basic to the Process being in force) to the useful value and life of the rights to Stage One being acquired hereunder. Stepan will in no event be required to pay royalties under this subparagraph (including the above said minimum amounts) in excess of $400,000.

(c) Upon the exercise of its option as to Stage Two, royalties at the rate of $0.03 per pound of hydrazine produced (as hereinafter defined) by Stepan through such Stage Two; provided, that on hydrazine produced through both Stage One and Stage Two, only one $0.03 per pound royalty shall be payable hereunder. Stepan shall, however, irrevocably pay to

Fisons Corp. minimum royalties for Stage Two (in addition to minimum royalties payable for Stage One under subparagraph (b)) of not less than $43,000 as of two years after the date of Stepan's exercise of its option as to Stage Two pursuant to paragraph 2 hereof, not less than $64,500 as of three years after said date, not less than $86,000 as of four years after said date, not less than $107,500 as of five years after said date, not less than $129,000 as of six years after said date and not less than $150,000 as of seven years after said date. Stepan shall only be required to pay royalties in excess of said minimum amounts and after said seven-year period, if and so long as Fisons Ltd. has in force United States patent basic to either Stage One or Stage Two of the Hydrazine Process, said amounts and said period being deemed commensurate (absent such a patent being in force) to the useful value and life of the rights to Stage Two being acquired hereunder. Stepan will in no event be required to pay royalties under this subparagraph (including the aforesaid minimum amounts) in excess of $450,000, except that if Stepan should utilize Stage Two apart from Stage One the aforesaid maximum amount shall not apply as to royalties on hydrazine produced by Stage Two alone but there shall be an aggregate maximum of royalties payable under both

subparagraphs (b) and (c) (including the stated minimum amounts) of $850,000.

(d) For the purpose of calculating the above described royalties, the amount of hydrazine produced by Stepan shall be calculated on the following basis:

(i) In the event that the azine produced in the Hydrazine Process is converted to hydrazine salts or hydrazine hydrate for sale or use as such the amount of hydrazine is the NH_2 - NH_2 content of said hydrazine salt or hydrazine hydrate produced.

(ii) In the event that the azine produced in the Hydrazine Process is converted directly to hydrazine derivitives without passing through a hydrazine salt or hydrazine hydrate the amount of hydrazine is the amount of hydrazine theoretically equivalent to the azine used for such conversion.

(e) Stepan will keep in the United States full, adequate and accurate books of account showing the exact and entire amount of all hydrazine produced by it for the total of royalties due and payable to Fisons Corp. and Stepan will, during January, April, July and October of each year

render to Fisons Corp. written statements of account verified, if required by Fisons Corp., under oath by an officer of Stepan, setting forth the amount of royalties due and payable by Stepan for the calendar quarter ending on the last day of the preceding month. Royalties for the quarterly period immediately preceding shall be paid at such times. The statement as of December 31 of each year shall state the total amount of royalties payable for the preceding year and shall be certified by an independent certified public accountant. Royalties shall be payable at Wilmington, Massachusetts, or at such other place as Fisons Corp. may hereafter direct in writing, and payment shall be in United States dollars. Any additional amounts required to be paid to meet the minimum amounts set forth in subparagraphs (b) or (c) above shall be paid to Fisons Corp. yearly on the anniversary of the date of Stepan's exercise of its options pursuant to paragraph 2 hereof.

7. All rights to use of the relevant process or processes conferred by Fisons Corp. or Fisons Ltd. to Stepan under this Agreement are limited in exercise to the United States, and the product or products produced thereby shall not knowingly be sold by Stepan in or to the United Kingdom.

Assignability

8. This Agreement shall not be assignable by any party except that Fisons Corp. may assign to Fisons Ltd. or any subsidiary thereof.

Notices

9. All notices and communications pursuant to this Agreement shall be in writing and shall be deemed to have been duly given if mailed by certified or registered mail return receipt requested postage prepaid, to Stepan Chemical Company at Edens Expressway & Winnetka Road, Northfield, Illinois 60093, Attention: Secretary; to Fisons Corporation at 51 Eames Street, Wilmington, Massachusetts, Attention: Treasurer; and to the International Division of Fisons Limited at Nine Grosvenor Street, London, England, Attention: Secretary. Any party may change the

address to which such notice may be sent to it by the other parties of such new address.

Breach

10. This Agreement shall determine forthwith, at the option of the complaining party, upon:

(a) Any material breach by any party hereto, provided that the complaining party has served written notice of the breach upon the offending party and the offending party has had 30 days in which to effect a remedy and has not done so; or

(b) Any material breach by any party hereto of the Related Agreement or any licensing agreement listed on Exhibit B thereto, provided that the complaining party has served written notice of the breach upon the offending party and the offending party has had 30 days in which to effect a remedy, and has not done so.

The aforesaid right to terminate under this paragraph 10 shall not be deemed exclusive of any other rights of a complaining party with respect to any breach of this Agreement.

11. Any breach of this Agreement upon the part of Stepan shall not limit nor restrict its liability to make payment of the minimum royalties secured under this Agreement, so long as Fisons Ltd. or Fisons Corp. shall not have terminated the Agreement under paragraph 10.

12. (a) If any English court should refuse to enforce any term of this Agreement on the ground that the phrase "normal commercial terms" or its equivalent as used in this Agreement is unenforceable because of vagueness, uncertainty, indefiniteness or any similar reason, Stepan and Fisons Ltd. agree as follows:

(i) They shall submit their dispute to arbitration, the judgment of which shall be final, in accordance with and subject to the provisions of the English Arbitration Act of 1950 or any statutory modification or reenactment thereof for the time being in force and they are hereby agreeing to submit to the jurisdiction of the English courts for this purpose.

(ii) If for any reason beyond the control of Stepan and Fisons Ltd. it is impossible for them to arbitrate as provided in (i) above or arbitration hearings pursuant to (i) above do not begin before the end of six months after submission of the dispute to arbitration then Stepan and Fisons Ltd. agree to arbitrate as follows:

(A) The arbitration proceeding shall be held in Chicago, Illinois U.S.A.

(B) The arbitration shall be conducted in accordance with Illinois law and except as otherwise specifically provided in this paragraph pursuant to the rules of the American Arbitration Association.

(C) There shall be three arbitrators one of which shall be selected by Stepan, the other by Fisons Ltd. and the third by the other two arbitrators. If the other two arbitrators cannot agree on a third arbitrator he shall be appointed by the judge of the English court to which the dispute was originally referred. If the judge shall refuse to make the appointment it shall be made by the Chief Judge of the United States Court of Appeals for the Seventh Circuit.

(D) The decision of the arbitrators shall be final and conclusive in accordance with Illinois law.

(b) The parties shall request the said English judge to define the issues in the dispute that must be resolved by arbitration and if he makes such a determination it is

the intention of the parties the arbitrators shall abide by his decision.

(c) The parties shall have no obligation to appeal any decision of an English judge before going to arbitration pursuant to this paragraph.

13. (a) All grants of licenses and other rights and all obligations imposed by this Agreement shall include the respective subsidiaries of Stepan and Fisons Ltd. The term "subsidiary" shall mean any company of which not less than 50% of the voting stock is controlled directly or indirectly by the relevant party.

(b) Except as provided in subparagraph (a) of this paragraph and as provided in paragraph 3 of this Agreement, all grants of licenses and other rights to Stepan or Fisons Ltd. made under this Agreement shall be on a non-exclusive non-sublicensing basis.

14. Any headings or marginal references used herein are included solely for convenience and shall not be deemed to affect in any way the substance of the Agreement.

15. All obligations of Fisons Corp. under this Agreement are guaranteed by Fisons Ltd. and all rights and obligations of Fisons Ltd. as to the grant of industrial

property rights, technical improvements and technical information are entered into as agent on behalf of its subsidiary Fisons Industrial Chemicals Ltd. the proprietor of the patents or patent applications, the know-how and trade secrets referred to herein, the obligations of Fisons Industrial Chemicals Ltd. hereunder being guaranteed by Fisons Corp. and Fisons Ltd.

The like rights and obligations of Stepan as to the grant of industrial property rights, technical improvements and technical information are entered into as agent on behalf of National Polychemicals Inc. the obligations of which are guaranteed by Stepan.

16. (a) It is agreed that obligations of all parties hereto are subject to any bona fide restrictions existing on the date hereof, validly imposed by third parties in respect of their own (or licensed) industrial property rights, technical improvements or technical information.

(b) Fisons Corp. and Fisons Ltd. agree that they will not at any time in the future subject themselves to any limitation by any third party with respect to any industrial property right, technical improvement or technical information at such time owned or controlled

by Fisons Corp. or Fisons Ltd. which is the subject of any grant required to be made by Fisons Corp. or Fisons Ltd. hereunder, nor will they subject themselves to any limitation by any third party in respect of any such right, improvement or information which may be subsequently developed by them and which is the subject of any grant required to be made by them hereunder.

(c) Fisons Corp. or Fisons Ltd. will not subject themselves to any limitation by any third party with respect to any industrial property right, technical improvement or technical information being acquired by them which otherwise would upon acquisition become the subject (or the basis for the subject) of any grant required to be made by them hereunder unless said right, improvement or information is not available or obtainable by any reasonable means which does not involve subjection to such a limitation.

(d) Before subjecting themselves to any limitation under subparagraph (c), Fisons Corp. or Fisons Ltd. shall give Stepan at least 30 days' notice of the limitation which is contemplated.

17. This Agreement shall supersede all prior negotiations and agreements between the parties hereto except the Related Agreement.

18. This Agreement shall be construed and enforced in accordance with English Law.

IN WITNESS WHEREOF, each of the parties hereto has executed this Agreement as of the day and year first above written.

STEPAN CHEMICAL COMPANY

By _____
Vice Pres. & Treasurer

FISONS CORPORATION

By _____
Executive Vice President

FISONS LIMITED

By _____

Exhibit A

Item

1. Aminotriazole
2. Maleic Hydrazide
3. Azobisisobutyronitrile
4. Azodicarbonamide
5. Benzene Sulfonyl hydrazide
6. p,p'-oxybis benzene sulfonyl hydrazide
7. Beta-hydroxyethyl hydrazine
8. Aminoguanidine bicarbonate
9. Tri-hydrazino triazine
10. Acetone Semicarbazone

DOCUMENT D-2

NATIONAL POLYCHEMICALS INC
WILMINGTON MASSACHUSETTS 01887

Telephone (617) 933-4700 Cable: NAPOL WILMINGTONMASS

DEPOSITION EXHIBIT 5

October 16, 1970

Mr. Thomas C. McMahon, Director
Division of Water Pollution Control
Water Resources Commission
The Commonwealth of Massachusetts
State Office Building
Government Center
100 Cambridge Street
Boston, Massachusetts 02202

RECEIVED

Dear Mr. McMahon:

I am submitting the following information to supplement a plant design prepared by The Badger Company for a waste treatment system at our Wilmington plant. This report was submitted to your Department on September 1, 1970, for your approval; but the approval has been withheld because of two factors, namely, entry specifications into the MDC sewer line and cake disposal.

Information gathered from a one-month study by an independent laboratory, and updated due to process changes, suggests that the effluent from the proposed treatment plant will now meet the MDC rules and regulations covering discharge of sewage, drainage, substances, or wastes. Specifically, objections had been raised as to the sulfate content in the treated effluent. Investigation now shows that the average sulfate content will be less than 1000 ppm and, therefore, conform to the proposed MDC requirements.

The second point raised was that of cake disposal. This cake, generated as a result of the neutralization of the plant effluent, amounts to approximately 28 tons per day; and, it has been proposed that this material be used as sanitary landfill. The cake has a bulk density of 80 lbs./cubic foot and will have the following analysis:

A SUBSIDIARY OF STEPAN CHEMICAL COMPANY

010036

EPA

0059-0091

Water	27,500 lbs.
Gypsum	26,800 lbs.
$CaCO_3$	650 lbs.
Calcium Oxybisbenzene Sulfonate	Trace
Na_2SO_4	Trace
$Al(OH)_3$	Trace
NaCl	Trace
$CaCl_2$	Trace
Formaldehyde	Trace
$NaNO_3$	Trace
NH_4Cl	Trace
TOTAL	54,950 lbs. = 27.5 Tons/Day

We have talked with Mr. Kenneth Tarbell, District Engineer, State Department of Public Health, to seek his approval for the use of this material as sanitary landfill.

Subject only to this approval, we have made arrangements with a local disposal contractor for the disposition of this cake.

With the resolution of these points, we are now seeking approval from the Division of Water Pollution Control for our plans for an effluent treatment plant.

Very truly yours,

NATIONAL POLYCHEMICALS, INC.

Ronald J. Mahrlen
Plant Manager

djm

cc: EVD
CPR
Badger

COMPLETED

The Commonwealth of Massachusetts
Department of Public Health

600 Washington Street, Boston 02111

Division of
Environmental Health
Room 320

DEPOSITION EXHIBIT

NOV 9 1970

November 4, 1970

Tyngsboro Landfill

National Polychemical, Inc.
Wilmington, Massachusetts 01887

Re: Wilmington - Solid Wastes Disposal
Landfill Disposal of Gypsum Waste

Attention: Anthony R. Green

Gentlemen:

Subsequent to our conversation at the Regional Health Office on October 16, the Division of Environmental Health has considered the matter of the disposal of certain solid wastes from your liquid waste treatment facilities. This waste results from the neutralization of sulphuric acid by use of a lime slurry, and after filtration and concentration consists of a gypsum cake containing approximately 50% water and certain other trace compounds. It is anticipated that approximately 28 tons per day of this material will be disposed of by a landfill process.

The Division of Environmental Health is of the opinion that the material produced is suitable for disposal by sanitary landfill methods, provided that the material is placed a minimum of four feet above anticipated ground water, and that suitable precautions are taken to prevent the carriage of any material to surface streams in the area of disposal.

Before specific approval can be given relative to the means and location of disposal, it is requested that you submit to this Division your proposals relative to the location and operation of the disposal site, together with the necessary information relative

Re: Wilmington - Solid Wastes Disposal -
Landfill Disposal of Gypsum Waste

to soil conditions and ground water elevations to determine the appropriateness of the site.

Very truly yours,

For the Director,

Kenneth A. Tarbell
District Sanitary Engineer
Northeastern Regional Health Office
Tewksbury Hospital
Tewksbury, Mass.
Tel. 851-7261

T/Et/j

cc: Board of Health
Wilmington, Mass.

Mr. C. Moore
Badger Company
Third Street
Cambridge, Mass.

EXHIBIT
Riley 33
9/10/90 DL

UNITED STATES DISTRICT COURT
FOR THE
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA, Plaintiff VS. CHARLES GEORGE TRUCKING COMPANY, INC. ET AL, Defendants STEPAN COMPANY, Defendant/Third Party Plaintiff VS. FISONS CORPORATION, Third Party Defendant	*	CIVIL ACTION NO. 85-2463-WD BBO# 034920
COMMONWEALTH OF MASSACHUSETTS, Plaintiff VS. CHARLES GEORGE TRUCKING COMPANY, INC., ET AL, Defendants STEPAN COMPANY, Defendant/Third Party Plaintiff VS. FISONS CORPORATION, Third-Party Defendant	*	CIVIL ACTION NO. 85-2714-WD BBO# 034920

DEFENDANT, STEPAN COMPANY'S ANSWERS TO UNITED STATES' FIRST SET OF INTERROGATORIES

Pursuant to Rule 33 of Civil Procedure, Defendant, Stepan Company, responds to the United States' First Set of Interrogatories as follows:

'NN & WYNN, P.C.
84 STATE STREET
BOSTON, MA 02109
(617) 742-7146

With respect to the definitions and instructions, Stepan Company objects to the extent that such definitions and instructions seek to impose obligations inconsistent with or more burdensome than the procedures set forth in Federal Rules of Civil Procedure 26 and 33. Stepan Company further objects to interrogatories which seek information about its waste generation, handling and disposal outside of the time period.

Subject to the foregoing, Stepan Company states that it is not aware of any Stepan Company facilities from which allegedly hazardous substances were consigned, delivered or taken to the Charles George Landfill during the period that said Landfill was operated by the Georges. Further, Stepan Company is not aware of reliable information or documents which indicate that allegedly hazardous substances were consigned, delivered, or taken to the Charles George Landfill from any Stepan Company facilities during the period said Landfill was being operated by the Georges.

1. For each Interrogatory, identify

   a. who provided the information upon which the Response is based;

   b. whether that person has personal knowledge of the facts contained in the Response; and

   c. if the answer to part (b) of this Interrogatory is negative, please identify the source of the information.

A. Stepan Company objects to this Interrogatory as unduly burdensome. Without waiving the foregoing objection, Stepan Company states that the following Stepan Company employee

YNN & WYNN, P.C.
84 STATE STREET
BOSTON, MA 02109
(617) 742-7146

provided information in answering these interrogatories: Charles P. Riley, Jr.

2. Describe in detail the location and nature of each of your businesses or facilities (including those of National Polychemicals, Inc. ("National Polychemicals"), whether presently owned by you or not, from which hazardous substances were or may have been consigned, delivered or taken, directly or indirectly, to the Charles George Landfill, and for each such business or facility identify the manufacturing processes employed.

A. Stepan Company objects to Interrogatory No. 2 to the extent said Interrogatory asks Stepan Company to answer on behalf of National Polychemical prior to 1968 or to speculate as to locations from which allegedly hazardous substances may have been consigned, delivered or taken, to the Charles George Landfill. Without waiving the foregoing objection, Stepan Company states that rubber and plastic additives were manufactured at the Wilmington, Massachusetts, site using generally AZO compounds and nitrosamines and hindered phenols. The processes used were esterification, oxidation and nitrosation.

3. Describe in detail the location and nature of each of your businesses or facilities, whether presently owned by you or not, (including National Polychemicals) from which any substance was or may have been consigned, delivered or taken, directly or indirectly, to the Charles George Landfill, and

NN & WYNN, P.C.
84 STATE STREET
BOSTON, MA 02109
(617) 742-7146

for each such business or facility identify the manufacturing processes employed. (In responding to this Interrogatory you may refer, in part, to your answer to the prior Interrogatory).

A. Stepan Company objects to Interrogatory No. 3 on the same basis and for the same reasons as stated in Interrogatory No. 2.

4. Describe in detail each instance (during any period of time) in which you (including National Polychemicals) arranged by contract, agreement or otherwise for the removal, transport, consignment or delivery of hazardous substances that were or may have been taken (either directly or indirectly) to the Charles George Landfill, including, without limitation:

a. the dates upon which such removal, transport, consignment or delivery occurred and on which the hazardous substance left your facility or business;

b. the source and chemical content of the raw materials used in the processes which generated or otherwise led to the creation of such hazardous substance;

c. the nature of the industrial process that produced the hazardous substance;

d. the chemical content or constituents of such hazardous substance;

e. the amount of such hazardous substance;

f. the trade name or common name of such hazardous substance;

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g. the identity of those individuals responsible for selecting, packing, dispatching and approving the shipment of such hazardous substance; and

h. the name and address of the contractor, carrier or hauler (including, where applicable, yourself) and any operator or driver of such contractor, carrier or hauler used for transporting such hazardous substances.

A. Stepan Company objects to Interrogatory No. 4 to the extent that said Interrogatory asks Stepan Company to answer on behalf of National Polychemical prior to 1968 or to speculate as to possible instances in which substances originating with Stepan Company may have been taken to the Charles George Landfill. Subject to the foregoing, Stepan Company is not aware of any instance in which it arranged, directly or indirectly, for hazardous substances to be taken to the Charles George Landfill during the period the Landfill was operated by the Georges. Without waiving the foregoing objection, Stepan Company did contract with Charles George Trucking to remove unidentified trash from the Wilmington, Massachusetts, site pursuant to transport documents previously supplied to the U.S. EPA pursuant to its 104(e) request.

5. Describe in detail each instance (during any period of time) in which you (including National Polychemicals) arranged by contract, agreement or otherwise for the removal, transport, consignment or delivery of any substance (other than

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hazardous substances) that was or may have been taken to the Charles George Landfill.

A. Stepan Company objects to Interrogatory No. 5 to the extent that said Interrogatory asks Stepan Company to answer on behalf of National Polychemical prior to 1968 or to speculate as to possible instances in which substances originating with Stepan Company may have been taken to the Charles George Landfill. Subject to the foregoing objection, Stepan Company states that it is not aware of any instance in which it arranged, directly or indirectly, for any substances to be taken to the Charles George Landfill during the period of time the Landfill was operated by the Georges. Without waiving the foregoing objection, Stepan Company did contract with Charles George Trucking to remove unidentified trash from the Wilmington, Massachusetts, site pursuant to transport documents previously supplied to the U.S. EPA pursuant to its 104(e) request.

6. To the extent not already discussed in your response to the prior two interrogatories, please identify all wastes (including empty containers and chemicals disposed of in drums) produced or generated by your former facility in Wilmington, Mass. from January 1, 1964 to September 15, 1980, the raw materials used in each waste producing activity, the industrial processes that produced such wastes, the method and location of the disposal of such wastes, and the persons that were responsible for the handling and disposal of such

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wastes. In particular, please indicate whether there were any changes in the waste streams or industrial processes during this period and, if so, indicate the nature and date of these changes.

A. Stepan Company objects to this Interrogatory to the extent that it asks Stepan to answer on behalf of National Polychemical prior to 1968. Without waiving this objection, during the period 1968 to 1980, Stepan Company produced at the Wilmington, Massachusetts, site the following wastes:

a. Calcium sulfate which was picked up by Charles George Trucking for a period of about one to one and one-half years. Thereafter, this waste stream was disposed of in a licensed landfill at the plant site.

b. The processes used at this site were neutralization of acid system and oxidation.

c. Charles P. Riley, Jr. was the general manager.

d. There is no resolution other than as stated in (a) above that any waste stream changed (see also Olin documents made available for inspection in response to document requests).

See also documents made available for inspection in response to Request No. 25.

7. Describe in detail each instance (during any period of time) in which you (or National Polychemicals) arranged by contract, agreement or otherwise for the removal, transport, consignment or delivery of any substance by the Charles

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George Trucking Company and identify the chemical content of each such substance, the generating process for such substance, the volume of each substance, and the location of the disposal of such substance.

A. Stepan Company objects to this Interrogatory to the extent it asks Stepan to answer on behalf of National Polychemical prior to 1968. Without waiving this objection, Stepan Company has supplied this information previously to the U.S. EPA. Stepan Company is of the belief that this was general trash.

8. Identify each and every person, employed by you or acting on your behalf, who negotiated or otherwise communicated or dealt with any other party regarding the handling, generation, treatment, transportation, storage or disposal of any waste by the Charles George Landfill or the Charles George Trucking Company and, with respect to each person identified, state the nature and purpose of those negotiations, communications or dealings.

A. Anthony Green was director of purchasing at the Wilmington, Massachusetts, plant site.

9. Identify each and every person that was employed by the Charles George Reclamation Trust or the Charles George Trucking Company, Inc. that negotiated or otherwise communicated with your firm on matters that pertain to the subject of this lawsuit.

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A. Stepan Company objects to Interrogatory No. 9 as being vague and overly broad. Without waiver of the foregoing objection, Stepan Company is not aware of the identity of any person employed by the Charles George Reclamation Trust or the Charles George Trucking Company, who negotiated or otherwise communicated with Stepan Company's Wilmington, Massachusetts, facilities.

10. Identify and describe, in full and complete detail, any and all tests or analyses performed on the hazardous substances identified in your response to Interrogatory four.

A. Stepan Company did not identify any hazardous substances in Interrogatory No. 4.

11. If you have ever done business under any other name, or as any other partnership, corporation, or other entity, please identify such entity, the dates of conduct of business under that name, and, if a corporation, the state of incorporation.

A. Stepan Company was prior to January 1, 1984 known as Stepan Chemical Company from its date of incorporation in 1959 as a Delaware corporation. Prior to that date, Stepan Company F/K/A was an Illinois corporation from the date of its inception in 1932.

12. Identify any insurance coverage which may, in whole or in part, cover the claims against you in this action.

A. Stepan Company objects to this Interrogatory No. 12 as it requires a legal conclusion. Without waiving the foregoing objection, Stepan Company maintained Comprehensive General

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Liability and other insurance in varying amounts during the time the Landfill was operated by the Georges.

13. Identify each person you expect to call as an expert witness at the trial of this case, and for each state:

a. the witness' expertise and qualifications;

b. the subject on which the witness is expected to testify;

c. the substance of the facts and opinions to which the witness is expected to testify;

d. a summary of the grounds for each such opinion offered.

A. Stepan Company objects to this Interrogatory to the extent it calls for more information than is required by Federal Rule of Civil Procedure 26. Without waiving this objection, Stepan Company responds that it has not yet identified expert witness(es) it intends to produce at trial. Any expert witness(es) will be identified in accordance with the provisions of the Case Management Order issued by the Court in this action and Federal Rule of Civil Procedure 26.

14. Identify each person not previously identified in your response to these interrogatories who has knowledge concerning the subject matter of this action including, without limitation, the generation and or disposal of any hazardous substances by your former facility in Wilmington, Mass., and summarize the nature of such person's knowledge.

A. Stepan Company objects to this Interrogatory as being vague and overly broad. Without waiving the foregoing objection, Stepan Company states that other than disclosed in these

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Answers to Interrogatories it is not aware of any person with knowledge concerning alleged hazardous substances originating with Stepan Company and which were disposed of at the Charles George Landfill.

15. Identify any transporters, other than the Charles George Trucking Company, that your former facility in Wilmington, Mass. used to ship its hazardous substances between January 1, 1964 and September 15, 1980, and the location of disposal.

A. Stepan Company objects to Interrogatory No. 15 as being overly broad, vague and cumbersome. Without waiving the foregoing objection, Stepan Company knows of no transporters, other than Charles George Trucking Company, which were used to ship substances. Stepan Company has no knowledge as to the disposal location of any substances transported by the Charles George Trucking Company.

16. Identify any and all locations, other than the Charles George Landfill, to which your former facility in Wilmington, Mass., or the shippers of its hazardous substances, sent such hazardous substances. For each such shipment, please identify the name and quantity of all substances shipped, as well as the date of all such shipments.

A. Stepan Company objects to this Interrogatory No. 16 as being overly broad, unduly burdensome and not reasonably calculated to lead to the discovery of admissable evidence. Without waiving the foregoing objection, Stepan Company has no knowledge of any location to which its former facility in

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Wilmington, Massachusetts, shipped waste substances.

17. Please describe the nature of the transaction in which Stepan Corporation purchased National Polychemicals (or certain assets of National Polychemicals or Fissons Corporation) on or about 1968 including, without limitation, whether National Polychemicals continued as a separate corporation and, if so, for how long, whether Stepan Corporation continued to conduct business at the Wilmington, Mass. facility under the name National Polychemicals and, if so, for how long, and the relationship of Fissons Corporation to National Polychemicals.

A. Stepan Company acquired all of the shares of National Polychemicals, Inc., a Massachusetts corporation, from Fisons Corp., a Massachusetts corporation, a wholly owned subsidiary of Fisons Limited, a United Kingdom Corporation.

18. Please describe the nature of the transaction in which Stepan Corporation sold its Wilmington facility to Olin Corporation on or about September 15, 1980 including, without limitation, an explanation of what other assets of Stepan Corporation were sold to Olin Corporation and whether Olin Corporation, after the sale, continued to produce the same products at the Wilmington facility that you had previously produced at the facility.

A. National Polychemicals was merged into Stepan Company and operated as a division under the same Polychem division of Stepan Chemical Company (Polychem). Stepan Company sold to

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Olin Corporation on August 5, 1980 all of the assets, properties, goodwill and business of Polychem as a going concern.

19. In your March 20, 1989 response to an EPA information request you stated, in response to question 4(a), that your former facility located in Wilmington, Mass. produced plastic and rubber additives. Please identify the chemical content of each plastic and rubber additive, the processes that resulted in the production of these materials (including the raw materials used in the processes and the chemical content of these raw materials), and the method and location of disposal of off-specification or otherwise unusable product.

A. a. Plastic and rubber additives - azodicarbonamide, hydrazine, urea and sulfuric acid.

b. Dinitrosopentamethylene tetramine (a blowing agent) - hydrochloric acid, sodium nitrate, and hexamethylene tetramine.

c. Activators/inhibitors for organic chemical blowing agents - finely ground urea, zinc salts and soaps and mixtures containing those products.

d. Hindered phenol - dinonylphenol and formaldehyde.

e. Protective agents - phosphites, secondary amines. See also Olin documents made available for inspection in response to document requests.

See also documents made available for inspection in response to Request No. 25.

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As to disposal, see answers to Interrogatories No. 5, 6, 20, 21, 22, 25 and 27.

20. In your March 20, 1989 response to an EPA information request you stated, in response to question 4(b), that the products produced by your former facility in Wilmington, Mass. were "primarily" organic solids precipitated from aqueous systems. Please identify the other wastes produced by this facility from 1968 to 1980 and identify the chemical content of those wastes.

A. Aqueous streams containing dissolved sodium sulfate and sodium chloride.

21. In your March 20, 1989 response to an EPA information request, in response to question 4(b), you listed seven specific materials that were disposed of by your former Wilmington, Mass. facility. Please indicate whether all of this material was disposed of through the Metropolitan District Commission Regional Sewer and, if not, where it was disposed of. In addition, please indicate whether or not these were the only materials disposed of by your former Wilmington, Mass. facility and, if not, please identify all other materials disposed of (including chemical content) and the place and method of disposal.

A. The materials identified in Stepan Company's response are the only ones of which Stepan Company is currently aware. The waste materials identified in Interrogatory No. 21 were disposed of by lagooning on the plant site and depending on

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the availability of Metropolitan Sanitary District Service and were disposed of in municipal sewers. See also documents made available for inspection in response to Request No. 25.

22. Please indicate whether or not your former Wilmington, Mass. facility generated the following wastes from 1964 to September 15, 1980: sulfates, chlorides and/or ammonia compounds and, if so, describe the method and location used for the disposal of these wastes.

A. Stepan Company's Wilmington, Massachusetts, site generated sulfates, chlorides and ammonium. See response to Interrogatories contained herein.

23. With respect to the gypsum cake that was produced by your former Wilmington, Mass. facility as a result of the neutralization of sulfuric acid with the use of a lime slurry, please identify the chemical content of this cake (including trace elements) and describe the location and method used for the disposal of this cake.

A. 99 percent calcium sulphate - 1 percent sodium sulphate, sodium chloride and ammonium sulphate. Charles George Trucking picked this material up for a period of about one to one-half years. Thereafter, it was disposed of in an approved landfill on the plant site.

24. Please identify the following persons who appear to have been Stepan employees: Mike Marciano, Charles Riley, Anthony Green, Ronald McBrien, Pat Kane, and Bill Lundry.

A. Mike Marciano - Chemical Operator and Warehouseman

Charles P. Riley, Jr. - General Manager and Plant Manager

Ron McBrien - Plant Manager

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Anthony Green - Purchasing Agent

Pat Kane - Maintenance Supervisor

Bill Lundry - Unknown, no such employee known with this spelling.

25. Please identify the process employed by the on-site wastewater treatment plant at the Wilmington facility during the 1960's and 1970's, identify the chemical content of the influent and effluent streams (including sludges), and the method and place of disposal of the effluent streams (including sludges).

A. Acid stream neutralized with lime solution using municipal water. The effluent streams were disposed of through municipal sewer systems after lagooning on the plant site. Calcium sulfate solids were retained in an approved landfill on the plant site.

26. With respect to the gypsum cake produced by the Wilmington facility in the 1960's and 1970's, please identify the chemical content of the cake, the volume of the cake, and the location and method of the disposal of the cake. Please indicate whether the chemical content of the cake or the place or method of disposal of the cake changed during this period of time.

A. See answer to Interrogatory No. 23.

27. In your March 20, 1989 response to an EPA information request you stated that certain of the Wilmington facility's wastes were taken to the Charles George Landfill and that other

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wastes were disposed of into the Metropolitan District Commission Regional Sewer. Please describe which wastes were sent to the Charles George Landfill (or removed by the Charles George Trucking Company) and which wastes were discharged into the sewer.

A. Gypsum filter cakes for a period of one to one and one-half years were removed by the Charles George Trucking Company. Subsequent to about 1971, the waste effluent stream was disposed of in the municipal sewer system after first being deposited in an approved lined lagoon on the plant site.

28. Identify the chemical content and method of disposal (including location) of all filter media used in the manufacturing processes at the Wilmington facility.

A. No filter media was used.

Signed this 21 day of March, 1990 under the pains and penalties of perjury.

AS TO OBJECTIONS:

Marylin A. Beck

Marylin A. Beck
Wynn & Wynn, P.C.
84 State Street
Boston, MA 02109
(617) 742-7146
BBO# 034920

WYNN & WYNN, P.C.
84 STATE STREET
BOSTON, MA 02109
(617) 742-7146

On behalf of Stepan Company in the above-captioned action, I have read the foregoing responses to the United States' Interrogatories. Said responses were prepared by or with the assistance of agents, employees, representatives or attorneys of the corporation, or others believed to have relevant information and with the assistance and advice of counsel, upon which I have relied. The responses set forth herein, subject to inadvertent or undiscovered errors or omissions, are based on and therefore necessarily limited by the records and information still in existence, presently recollected, thus far discovered in the course of the preparation of these responses, and currently available to the corporation. Consequently, the corporation reserves the right to make any changes in or additions to any of these answers if it appears at any time that errors or omissions have been made therein or that more accurate or complete information has become available. Subject to the limitations set forth herein, said responses are true to the best of my present knowledge, information, and belief. I certify under penalty of perjury on behalf of the corporation that the foregoing is true and correct. Executed on the 20th day of March, 1990.

Jeffrey W. Bartlett
Vice President, General Counsel
and Secretary
Stepan Company

Dated this 21st day of March, 1990 under the pains and penalties of perjury.

EXHIBIT
Riley 31
8/10/90 DK

Stepan | Stepan Company | Northfield, Illinois 60093
Telephone 312 446 7500

March 20, 1989 VIA FEDERAL EXPRESS

Ms. Susana Cortina de Cardenas
Assistant Regional Counsel
United States Environmental
Protection Agency
Region 1
J. F. Kennedy Federal Building
Boston, Massachusetts 02203-2211

Dear Ms. Cardenas:

Enclosed please find our updated response to your letter concerning Charles George. It is our understanding from Mr. Ray that we have until March 21st to furnish this information to you.

Cordially,

Jeffrey W. Bartlett
Vice President,
Secretary and General Counsel

JWB/dlk
Enclosures

0059-0116

The questions are being answered in the order asked.

1. Jeffrey W. Bartlett, Vice President, Secretary and General Counsel. Employed from August 23, 1983, on information and belief following discussions with Mr. C. P. Riley, Vice President-Manufacturing who has been employed by Stepan Company since 1968 following Stepan's acquisition of National Polychem from Fissons Corporation, a Massachusetts company, in 1968.

2. Stepan Company F/K/A Stepan Chemical Company was incorporated in 1959 in the State of Delaware. Stepan Company has branches (not subsidiaries) in California, Georgia, New Jersey and Illinois. The plant in question located in Wilmington, Delaware was acquired in 1968 from Fissons Corporation, a Massachusetts concern.

3. Stepan Company is a primary manufacturer of surfactants, polymers (urethane foam polyol components and phthalic anhydride), and specialty products (food grade esters). The Company does not sell retail. As for its former Wilmington, Massachusetts company, see below.

4. The response to this question is based upon a conversation between Mr. Meier of Stepan Company and Mr. Ray of the EPA Region I on March 16, 1989 that Stepan Company's responses could be limited to business activities in Massachusetts and New Hampshire. By way of prefacing, it should be noted that the Wilmington, Massachusetts plant was sold to Olin Chemical in 1980. All records were left at the premises and the information submitted hereunder is based upon the recollection of Mr. Charles P. Riley [see also enclosed affidavit of Mr. Riley]. The business activity of the Wilmington plant was:

   a) Plastic and rubber additives (no material safety data sheets are in our possession nor were any required in the 1968-1983 time period).

   b) Products produced at the Wilmington, Massachusetts plant were primarily organic solids precipitated from aqueous systems. The products were recovered by filtration and the waste products in the aqueous stream discharged to the Metropolitan District Commission Regional Sewer.

      Materials disposed of in this manner include:

Sodium Chloride	Est. 1.5 MM lbs.	Solid	(Dissolved in water)
Sodium Sulfate	Est. 1.0 MM lbs.	Solid	(Dissolved in water)
Sodium Nitrate	Est. 0.3 MM lbs.	Solid	(Dissolved in water)
Aluminum Hydroxide	Est. 0.25 MM lbs.	Solid	(Suspended in water)

Azodicarbonamide (Azobisformamide)	Est. 10 K lbs.	Solid	(Suspended in water)
Dinitrosopentamethylene Tetramine	Est. 5 K lbs.	Solid	(Suspended in water)
Diisobutylene	Est. 10 K lbs.	Liquid	(Suspended in water)

c) Chemical manufacturing processes were run to produce additives for rubber and plastics processing. In chemical operation terms, the processes would include: diazotization, condensation, alkylation, and oxidation reactions.

d) Charles George (see enclosed documents). These are the only documents we have concerning waste disposal from our former Wilmington, Delaware plant.

During this time period Stepan Company, other than its Wilmington plant, sold to customers in New Hampshire (NH) and Massachusetts (MA) the products listed below. Stepan did not sell product to the Wilmington, Massachusetts plant.

1)	Stepanfoam T	NH
2)	Stepanfoam C	NH
3)	Stepanfoam 3759-B	NH
4)	Stepanfoam 3761-M	NH
5)	Silcone DC-300	NH
6)	Stepanfoam R 3972 V	NH
7)	Stepanfoam 3970 G	NH
8)	Stepanol-WAC	MA
9)	Maypon 4C	MA
10)	Bioterge A S	MA
11)	Ninol 212	MA
12)	IPM Stepan D-50	MA
13)	Lanthanol	MA
14)	W-128 Extra	MA
15)	Bio-Soft S-100	MA
16)	Steol CA-460	MA
17)	SXS	MA
18)	Nacconol 90 F FL	MA
19)	WA-Paste	MA
20)	Stepanlex A	MA

21)	Ninol 1301	MA
22)	Agent 569-75	MA
23)	Polystep B-5	MA
24)	Polystep 8-1	MA
25)	Stepanfoam 8809	MA
26)	Stepanfoam 9063	MA

Material safety data sheets for products 1-26 are enclosed. As these products were not manufactured in New Hampshire or Massachusetts and as explained previously (see enclosed correspondence) Stepan Company other than its Wilmington plant did not dispose of any waste in Charles George. We are not responding to that part of the question which relates to waste.

5) Charles George Landfill, Tyngsborough, Massachusetts and Metropolitan District Commission Regional Sewer.

6) a) No
b) No
c) No
d) No
e) No
f) No
g) No

7) Other than as disclosed on the enclosed invoices, we have no other records.

April 11, 1983

To: John Marghoris
From: R. McBrien
Subject: Detail Sheets for Shipments of Stepan materials from Wilmington

Attached are 3 sheets which show detail of waste disposal of "Stepan" material. These are the back-up sheets for the volume and cost info. in my memo of 1/27/83 and includes both drummed waste and contaminated dirt/soil.

	Shipments of:
Sheet #1	4/15/82, 8/13/82, 8/23/82, 9/6/82
Sheet #2	11/8/82, 11/9/82, 11/10/82, 11/17/82, 11/18/82, 12/2/82, 12/3/82, 12/6/82
Sheet #3	12/17/82, 1/7/83

RMc

	No. Drums	Disposal cost/Drum	Disposal charge	Container Absorbent cost	Transport cost	Total C	Type Mat'l
April 15, 1982	27	35	945	445	593	1983	wytoxs
Aug 13, 1982	5	35	175				Paraformaldehyde, contam.
	3	"	105				Dirt/oil
	4	"	140				Potassium stearate
	20	"	700	330			wytoxs
	15	"	525				Kempores
Total	47	—	1645	330	1787	3762	
Aug 23, 1982	2	35	70	11			Kempore/DOP
	11	35	385				DOP/Dirt/wytox
	2	125	250				phenol
	34	35	1190	187			SDA-200
	2	35	70	33			Triisopropanolamine
	3	35	105				Glycerin monoleate
Total	54	—	2070	231	1186	3487	
Sep 14, 1982	4	~~35~~ 38	~~140~~ 152				Kempore/DOP
	22	"	770				wytoxs, Dirt
	19	"	665				Kempore, dirt
	18	"	~~630~~ 684	99			Kempore/DOPS SDA-200
	63	—	~~2205~~ 2271	99	1809	4179	

0059-0123

[illegible] 33 Sheet #2

	drums	cost/Drum	charge	Absorbent cost	cost	cost	Type Mat'l
Nov 8, 1982	40	35	1400	—			Wytox, floor sweepings, PAP, sand
	19	35	665	313			Acta foam off spec R-3
Total	59	—	2065	313	1430	3808	
Nov. 9, 1982	62	38	2356	—			Kempore Sweepings
	3	38	114	—			Wytox ADP-F (Cyanox flakes)
Total	65	—	2470	—	1448	3918	
Nov. 10, 1982	8	35	280	132			Acta foam off spec R-3
	3	38	114	—			Nitropore ATA F. Swps.
	1	38	38	—			Calcium Stearate
	3	38	114	—			Kempore/711 Dispersion
	3	38	114	—			Wytox, Opex, Kempore, Fl. Swps, stones, dirt
Total	18	—	660	132	430	1222	
Nov. 17, 1982	136 (16% gal)	48	6528	813	1096	8437 (7624)	Wytox 345
Nov. 18, 1982	5	38	190	—			Wytox 438-S / Wytox PAP-S
	5	35	175	—			Wytox, floor sweepings, PAP, sand
	8	38	304	—			Kempore Sweepings
	3	38	114	—			RIA - CS
Total	21	—	783	—	532	1315	"
Dec 2, 1982	Bulk 10 trucks	$72/Ton	14975	—	15525	30,500	contaminated dirt under Plant B storage tanks
Dec 3, 1982	Bulk 10 trucks	$72/Ton	15,510	—	15525	31,035	" " " " " " "
Dec 6, 1982	Bulk 6 trucks	$72/Ton	9000	—	9296	18,296	" " " " " " "
						79331	

	No. Drums	Disposal Cost/ Drum	Disposal charge	Container Absorbent Cost	Transport cost	Total cost	Type Mat'l
							Sheet #3
Dec. 17, 1982	1	103+5%	108	—			Recovered Nonylphenol
	4	67+5%	282	—			Treatment Plant Skimmings
	1	67+5%	70	—			Waste Diallylamine
	1	67+5%	70	—			Cyclohexanol
	1	67+5%	70	—			Benzene
				—			
	1	108+5%	114	—			Peg 400 A
	2	108+5%	228	—			Synthetic Methanol
	5	69+5%	362	—			Wytox Pap
	10	85+5%	893	—			Makon 10
	1	121+5%	127	—			OBSH - SD
Total	27		2323	—	430	2753	
Jan 7, 1983	Bulk 8 trucks	$72/ton	11419	—	12420	23839 ✓	East ditch clean up - Plant B tank farm

0059-0124

(FILE)
(RMQ, MT, DV
G-H

Commonwealth of Massachusetts

Department of Environmental Quality Engineering

ANNUAL HAZARDOUS WASTE REPORT

This form must be used for submission of annual reports by generators of hazardous waste and facilities which treat, store, use, or dispose of hazardous waste that is generated at the facility site. You may request that any information, records, or particular part thereof be kept confidential and not considered to be public record when such information, record, or report relates to secret processes, methods of manufacture, or production and, if made public, would divulge a trade secret. Please refer to the specific instructions for generators or facilities before completing this form.

1. Type of report: Generator Annual Report - Part 1A

2. Reporting year: 1981

3. Installation's name and identification number: Olin Corporation
MAD001403104

4. Installation address: 51 Eames Street Wilmington, MA 01887-3393

5. Installation Contact and telephone number: Muhammad Ahsan, 617/933-4240 ext. 36

6. Transportation Services used (for Part 1A reports only): 1) Recycling Industries Inc.
2) Newco Waste System Inc. 4) Frontier Chemical Waste Process Inc.
3) Tonnemaka Tank Transport Service

7. Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

In addition, I understand that any material supplied with this application will not be considered confidential unless I have specifically requested that such material be kept confidential and the Department has made a determination of confidentiality in accordance with Part 12 of the regulations.

Ronald J. McBrien	Ronald J. McBrien	3/1/82
Print or type name	Authorized Signature	Date Signed

M.A. Ahsan
3/1/82.

GENERATOR ANNUAL REPORT - PART 1A

8. Generator's identification number: MAD001403104

9. Facility's identification number: NYD043815703

10. Facility name: Frontier Chemical Waste Process Inc.

11. Facility address (street or P.O. Box, city, state, & zip code): 4626 Royal Ave, Niagara Falls, N.Y. 14303

12. Waste identification:

Line Number.	A. Description of Waste	B DOT Hazard Class	C Hazardous Waste Number	D Amount of Waste
1	Waste By-product Ammonia from Kempore* Manufacturing	02	D002	10,000 gal
2				
3				
4				
5				
6				
7				
8				

13. Comments (enter information by line number - see instructions):

*Azodicarbonamide.

GENERATOR ANNUAL REPORT - PART 1A

8. Generator's identification number: MAD0014033104

9. Facility's identification number: MAD053452637

10. Facility name: Recycling Industries, Inc.

11. Facility address (street or P.O. Box, city, state, & zip code): 385 Quincy Ave Braintree, MA 02184.

12. Waste identification:

Line Number.	A. Description of Waste	B DOT Hazard Class	C Hazardous Waste - Number	D Amount of - Waste
1	A-01 PCB Capacitors for disposal (two capacitors)	12	M002	1 drum
2	Waste flammable liquid N-O-S	07	D001	42 drums
3	Non-Hazardous Waste liquid	NONE	N/A	19 drums
4	Waste calcium stearate/water	NONE	N/A	22 drums
5				
6				
7				
8				

13. Comments (enter information by line number - see instructions):

2. Ignitable waste/azodicarbonamide.

3. Epoxidized soy-bean oil, polymeric hindered phenol silicondioxide, polymeric phosphite, heat transfer liquid, naphthenic oil/refined paraffinic oil

4. Non-hazardous waste

GENERATOR ANNUAL REPORT - PART 1A

8. Generator's identification number: MAD001403104

9. Facility's identification number: NYD080336241

10. Facility name: Cecos International Inc.

11. Facility address (street or P.O. Box, city, state, & zip code): 56th Street, & Pi
Ave, Niagara Falls, NY 14307

12. Waste identification:

Line Number.	A. Description of Waste	B DOT Hazard Class	C Hazardous Waste Number	D Amount of Waste
1	Waste 4,4' Oxybis (benzenesulfonhydrazide)	08	D003	16 drums
2	Waste 4, 4' Oxybisbenzenesulfonchloride)	N/A	N/A	59 drums
3	Waste Paraformaldehyde, solid	ORM-A	U182	69 drums
4	Formaldehyde Fiber glass Storage tank, (Pieces) Solid	ORM-A	U122	8 cu.yd.
5	Non-hazardous waste, solid Fiber drum	N/A	N/A	16 drums
6				
7				
8				

13. Comments (enter information by line number - see instructions):

2. Non-Hazardous waste

5. Empty fiber drums

(FILE)
(RMC) MT, DV.
GH.

Commonwealth of Massachusetts

Department of Environmental Quality Engineering

ANNUAL HAZARDOUS WASTE REPORT

This form must be used for submission of annual reports by generators of hazardous waste and facilities which treat, store, use, or dispose of hazardous waste that is generated at the facility site. You may request that any information, records, or particular part thereof be kept confidential and not considered to be public record when such information, record, or report relates to secret processes, methods of manufacture, or production and, if made public, would divulge a trade secret. Please refer to the specific instructions for generators or facilities before completing this form.

1. Type of report: Facility Annual Report - Part 1B

2. Reporting year: 1981

3. Installation's name and identification number: Olin Corporation
MAD001403104

4. Installation address: 51 Eames Street, Wilmington, MA 01887

5. Installation Contact and telephone number: Mohammad Ahsan, 617/933-4240 ext. 36

6. Transportation Services used (for Part 1A reports only): N/A

7. Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

In addition, I understand that any material supplied with this application will not be considered confidential unless I have specifically requested that such material be kept confidential and the Department has made a determination of confidentiality in accordance with Part 12 of the regulations.

Ronald J. McBrien — Ronald J. McBrien — 3/1/82
Print or type name — Authorized Signature — Date signed

M. A. Ahsan
3/1/82

14. Waste identification:

Line Number	A. Description of Waste	B Hazardous Waste Number	C Handling Method *	D Amount of Waste
1	Absorbent booms contaminated with Dioctylphthalate dispersion drain.	U028	S01	25 drums
2	Kempore and dioctylphthalate dispersion drain	U028	S01	3 drums
3	Actafoam R-3 (off spect batch)	D001	S01	1 drum
4	Pretreatment plant skimmings	M001	S01	22 drums
5	Paraformaldehyde mixed with water	U182	S01	4 drums
6	Wytox contaminated with Dioctylphthalate and dirt	U028	S01	5 drum
7	Filters contaminated with Muriatic Acid.	D002	S01	1 drum
8	Waste Diallylamine	N/A	S01	1 drum

15. Comments (enter information by line number):

1. Booms - Non-woven synthetic fiber to absorb organic seepage.
2. Kempore - finished product (Azodicarbonamide).
3. Manufactured from 2-Ethylhexoic acid, Dioctylphathalate, mineral spirits, KOH.
4. Process oil recovered from pretreatment sump, with traces of heavy metals, organics and water.
6. Wytox (Trisnonylphenyl phosphite) Manufactured from nonylphenol and Phosphorus Trichloride.
8. Slightly toxic

* 55 steel drums.

16. Cost estimates for facilities:

Closure $ 79,000.00 Post-Closure $ N/A

FACILITY ANNUAL REPORT - PART 1B

14. Waste identification:

Line Number	A. Description of Waste	B Hazardous Waste Number	C Handling Method *	D Amount of Waste
1	Waste Cyclohexanol	N/A	S01	1 drum
2	Waste Benzene	U019	S01	1 drum
3	Waste Hexane	D001	S01	1 drum
4	Waste Phenol	U188	S01	2 drums
5	Alcohol spent solvents Methanol/n-butanol	U154/U031	S01	7 drums
6	Asbestos insulation	U013	S01	76 drums
7	Sodium Azide contaminated Polyethlene liners	P105	S01	2 drums
8				

15. Comments (enter information by line number):

1. Slightly toxic
3. Slightly toxic, Flammable liquid
6. Old asbestos insulation removed from steam piping.

*55 gallon steel drum

16. Cost estimates for facilities:

Closure $ 79,000.00 Post-Closure $ ____

FACILITY ANNUAL REPORT - PART 1B

14. Waste identification: (Non-Hazardous Wastes)

Line Number	A. Description of Waste	B Hazardous Waste Number	C Handling Method	D Amount of Waste
1	Waste nonylphenol	N/A	S01	7 drums
2	Dirt contaminated with Mineral seal oil	N/A	S01	3 drums
3	Adipic Dihydrazide (off spec batch)	N/A	S01	1 drum
4	Potassium Stearate	N/A	S01	4 drums
5	Wytox Floor sweepings	N/A	S01	23 drums
6	Kempore Floor Sweepings	N/A	S01	7 drums
7	Benzophenone Hydrazone Floor sweepings	N/A	S01	1 drum
8				

15. Comments (enter information by line number):

1. Nonylphenol recovered from pretreatment sump, mixed with water and traces of oil.

5. Floor sweepings contain, trisnonylphenyl Phosphite, Actafoam F-2 powder, dirt, sand and water.

6. Contains Kempore (Azodicarbonamide), Dirt, sand etc.

*55 gallon steel drums

16. Cost estimates for facilities:

Closure $ 79,000.00 Post-Closure $ N/A

EXHIBIT
Riley 22
8/10/90 DR

OIA-18006A

INTER OFFICE MEMO **Olin**

TO R. McBrien AT DATE Oct. 28, 1981

FROM R. Guiliani AT COPY TO

SUBJECT POSSIBLE CHARGES TO STEPAN CHEMICAL

As of Oct. 27, 1981, we have paid $8,454.34 to Recyling Industries for disposal of 84 drums of hazardous waste that was here at the time of the aquisition. Also, $28,139.76 has been spent for the replacement of the chemical sewer line. This includes the cost of the new piping as well as all installation and Group Engineering charges. We have received an invoice for $30,083.94 from CECOS International for repackaging and removal of OBSH and OBSC. Included on the same invoice are charges for disposal of paraformaldehyde removed from the old storage tank. In total, there is a possible $66,678.04 to be collected from Stepan.

10/28/81
→ J. Manghario
Have RG call
Huy Nolan

FORM ... REV. ...

INTER OFFICE MEMO Olin

TO AT DATE September 25, 1980

FROM AT COPY TO

SUBJECT DRUMS OF WASTE MATERIALS

DRUM NO.	GROSS WT.	DESCRIPTION
1	486	Unknown Liquid
2	468	Dioctyl Phthalate/Water/Azodicar bonamide
3	547	Dioctyl Phthalate/Dirt/Sodium alkyl sulfate
4	517	Hydrated amorphous silicon Dioxide/Sodium alkyl sulfate/Water
5	513	Dioctyl Phthalate/Azodicarbonamide/Polymeric hindered phenol/DIRT
6	522	Dioctyl Phthalate/Azodicarbonamide/Polymeric hindered phenol/DIRT
7	490	Azodicarbonamide/WATER/DIRT
8	668	Dioctyl Phthalate/Azodicarbonamide/WATER/DIRT
9	475	Dioctyl Phthalate/Azodicarbonamide/DIRT/WATER/Naphthenic Oil/refined Paraffinic Oil
10	431	Unknown Liquid
11	500	Unknown Liquid
12	475	Polymeric phosphate/Dioctyl Phthalate/Naphthenic oil/refined Paraffinic oil/Water
13	483	Dioctyl Phthalate/Azodicarbonamide/Water
14	463	" " " "
15	500	Unknown Liquid
16	481	Azodicarbonamide/Polymeric Phosphate/DIRT/SAND
17	518	" " " " "
18	501	Dioctyl Phthalate/Azodicarbonamide/Water
19	486	Unknow Liquid
20	450	Azodicarbonamide/Dioctyl Phthalate/DIRT/Polymeric hindered phenol/ benzenesulfon hydrazide
21	441	Unknown Liquid
22	440	Epoxidized Soybean oil/Azodicarbonamide/WATER
23	437	" " " " "
24	437	" " " " "
25	501	Dioctyl Phthalate/Azodicarbonamide/WATER
26	482	" " " "
27	480	" " " "
28	509	" " " "
29	553	" " " "
30	440	Dioctyl Phthalate/WATER/DIRT
31	439	" " " "
32	300	Actafoam F-2 Paste/Polymeric hindered phenob/DIRT/WATER
33	439	Dioctyl Phthalate/WATER/DIRT
34	483	Dioctyl Phthalate/Azodicarbonamide/WATER/DIRT
35	480	" " " " "
36	442	Dioctyl Phthalate/WATER/DIRT
37	454	Dioctyl Phthalate/Azodicarbonamide/WATER
38	443	" " " "
39	492	" " " "
40	503	" " " "
41	525	" " " "
42	466	" " " "
43	486	" " " "

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR OTHER

FORM OH-10880 REV. 1872

INTER OFFICE MEMO Olin

TO AT DATE September 25, 1980

FROM AT COPY TO

SUBJECT DRUMS OF WASTE MATERIALS

DRUM NO.	GROSS WT.	DESCRIPTION
44	457	Dioctyl Phthlate/Azodicarbonamide/WATER
45	415	Naphthenic oil/refined Paraffinic oil/WATER/DIRT
46	414	Dioctyl Phthalate/Azodicarbonamide/WATER/DIRT
47	426	Polymeric Phosphite/WATER/DIRT
48	495	Dioctyl Phthalate/Azodicarbonamide/WATER/DIRT
49	476	" " " " "
50	462	" " " " "
51	484	" " " " "
52	479	" " " " "
53	300	Actafuam F-2 Paste/Polymeric hindered phenol/WATER/DIRT
54	417	UCON HEAT TRANSFER LIQUID
55	485	Polymeric hindered phenol/WATER/DIRT
56	411	Unknown Liquid
57	434	Dioctyl Phthalate/Azodicarbonamide/WATER/DIRT
58	462	" " " " "
59	467	" " " " "
60	495	" " " " "

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR_____ OTHER_____

U.S. V. CHARLES GEORGE 16MAR88
NAME Olin CO# S/

JCG078

DUCT	RAW MATERIALS	BY-PRODUCTS/WASTE	REMARKS
dioctyphthalate dibutylphthlate	phthalic anhydride 2 - ethylhexanol butylalcohol		•Discontinued •Operated 1955 - 1961
[redacted] hindered phenol (Wytox PAP)	dinonyl phenol nonyl phenol PTSA paraformaldehyde mineral spirits	Element from polishing filter	[redacted] •Operated 1971 - present
Polmeric phenol System (Wytox PDA)	same as Wytox PAP except Wytox ADP (m) added	Element from polishing filter	•Discontinued 198 or 1982
[redacted] hindered phenol (Wytox PAP-SE)	dinonyl phenol nonyl phenol paraformaldehyde PTSA mineral seal oil hexylene glycol potassium oleate	Element from polishing filter	[redacted] •Operated infre-quently
Alkaryl phosphite (Wytox 320)	Nonyl phenol dinonyl phenol	HCl (absorbed in water)	[redacted]
Wytox 313	Nonyl phenol PCl_3 Trifsopropanolamine	HCl (absorbed in water)	•Discontinued •Very small volum produced
Modified Azo products	Azodicarbonamide additives	None	Blending operati only
Actafoam F-2 Powder	Zinc stearate sodium stearate	None	Mixing Operation
Actafoam F-2 Paste	same as F-2 Powder (aa) except Drakol #35 oil added	None	Mixing Operation
Polycone 1000	Silicone (Polycone 125X) glycerine A quarex L Antifoam	None	Mixing Operation

Remaining Stepan Wastes

	Presently	After Rollin Shipment 12/8
R-3, off spec	2	2
Vinyl Phenol	7	0
Waste Oil, TP	4	0
Diallylamine	1	0
Cyclohexanol	1	0
Benzene	1	0
~~Wytox Sand~~ PEG 400	2	0
XR-34	25	25
MEA	1	1
OH	2	0
[illegible]AP	5	0
Deelac	2	2
NAKON 10	10	0
GTR-1, 2, EV-II	4	4
ATA Sweepings	3	3
Wytox Solids	5	5
OBSH SD (DOP)	4	3
Ca Stearate	1	1
~~Wytox, Opex Dirt~~ ADR-F	3	0
	83	46
KAT 8A910	3	3
VEN CSD		
PR[illegible]CT/cleans	3	3
PMC-06	1	1
[illegible]p/DOP disp	5	5
[illegible]id	34	34
	129	92

NOTE: J Margherio informed 129 remaining
13 Blowing agent
0 Phosphite
116 Others
129 Total

0059-0141

9/21/82

Stepan Waste for Disposal

	Mat'l	No. Drums	
1	R-3, off-spec	8	
2	Nonylphenol, recvd	7	
3	Waste oil Trtd PH	4	
4	Diethylamine	1	
5	Cyclohexanol	1	
6	Benzene	1	
7	Hexane	1	Obsolete Products:
8	Wytox, sand	28	XR-34 — 25
9	W-345 hydrolized	38	PEG 400 — 2
10	Actafoam XR-34	25	Deetac — 1
11	monoethanolamine	1	GTR-1, 3, EV-2 73
12	PEG 400	2	Wytox solids 7
13	Synthetic methanol	2	
14	W-PAP	5	
15	Deetac	1	
16	MAKON 10	10	
17	GTR-1, GTR-3, EV-2	73	
18	Nitrogen ATA scraps	3	
19	RIA CS	4	
20	W-438/PAP solids	7	
21	OBSH-SP (wet)	4	
22	Calcium Stearate	1	
23	Wytox, open, dirt	2	
24	Wytox ADP-F	3	
25			
26	MAT 84910	3	
27 Non-CSD	Products Chlorinated	3	
28	PMC-06	1	
29	Kempore/DOP Mix	5	
30	Unidentified	15	
31			
32			
33	Total	257	
34			
35			
36	Olin chemical Waste	150	
37			
38			
39			
40			

0059-0142

1/28/83 by JM

Stepan drums left

Hexane	(1)	wytox, sand (18) -	(5) ?
Actafoam XR-34	(24) x	wytox 320	(1) x
Peg 400	(1) x	~~[illegible] oil pump~~	~~(4)~~
MAT 84910	(3) x	mixture pails into drum	(4)
Monoethanolamine	(1)	pails	(6)
OBSH -50	(4) x	unidentified	34
mixture drums cabytex 403-405	(3)		
Actafoam R-3	(2) x		
Pap-SE	(1) x		
Wytox - Kempore	(1)		
Kempore - DOP Disp	(4) x		
TR-1, 6TK3	(4)		
Dextex	(1) x		

drums of Stepan mat'l remaining for disposal → 100 total

Mixed for shipment 223 drums

Expect to end up w/ ~~27~~ 223 drums after absorbent added

average cost per drum after mixing total 223 drums = $47.09/drum which includes 5% tax

0059-0143

WASTE/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
DOP contaminated Booms	CW-101	OLIN	
DOP dispersion drain	CW-102		
Actafoam off-spec R-3	CW-103		
Recovered nonylphenol	CW-104		
T.P. Skimmings	CW-105	45-54, 58, 97-103, 934-936, 674-677 +1 (T-P)	26
Paraformaldehyde + H_2O etc.	CW-106		
DOP's Wytox, dirt	CW-107		
Used acid filters	CW-108		
Contaminated, dirt, oil, etc.	CW-109	678	1
Waste Diallylamine	CW-110		
Adipic Dihydrazide	CW-111	150	
Cyclohexanol	CW-112		
Benzene	CW-113		
Hexane	CW-114		
Phenol	CW-115		
Spent solvent (methanol/n-butanol)	CW-116	107-113, 207, 208	9
Potassium Stearate	CW-117		
Wytox, floor sweepings, PAP, sand	CW-118		36

TOTAL = 150

STE/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
K[illegible]re floor sweeping, dirt	OW-119		
BPH sweepings	OW-120		
Asbestos (insulation)	OW-121		
Sodium Azide liners	OW-122		
Wytox 345	OW-123		
Kempore SDA 200	OW-124		
Actafoam XR-34	OW-125		
Isopropanolamine	OW-126		
M[illegible]thanolamine	OW-127		
PEG 400	OW-128		
Glycerine monooleate	OW-129		
Synthetic Methanol	OW-130		
Wytox PAP	OW-131		
DEEDAC	OW-132		
MAKON 10	OW-133		
Lagoon #1 Clean-up (Kempore, sand, water, etc.)	OW-134		

OLIN.

E/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
Benzonitrile/H_2O, Butanol	CW-135	199	1
Kempore sweepings (GIR-1, GIR-3, EV-2)	CW-136		
Kempore sweepings (Kem. FF, Kemp. MC)	CW-137		
Nitropore ATA F. Swps.	CW-138		
RIA-CS	CW-139		
Wytox 438-s/Wytox PAP-S	CW-140		
PCBS - Transformer	CW-141		
CBSH-SD	CW-142		
Calcium Stearate	CW-143		
Kempore/711 Dispersion	CW-144	449, 455, 456, 232	4
Wytox, Opex, Kempore, Fl. Swps, stones, dirt	CW-145		
Gravel/sand contaminated with organics, (Plt. B tk. farm)	CW-146	418-422 + 3 (Plt. B)	8
T.P. Sump sludge sewer MH	CW-147	476-551	76
Wytox ADP-F (cyanox flakes) (Dioctyldiphenylamine)	CW-148		89

OLIN

NON-CSD WASTES

1. OIL, H_2O, DIRT (MAINT)	679-693 (15)	15
2. BOILER HOUSE (WATER TREATMENT)	(APPROX)	10
		25

WASTE/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
contaminated Booms	OA-101	STEPAN	
DOP dispersion drain	OA-102		
Actafoam off-spec R-3	OA-103	10, 296 - 299, 311, 449, 450	8
Recovered nonylphenol	OA-104	13 - 19	7
T.P. Skimmings	OA-105	20 - 23	4
Paraformaldehyde + H_2O etc.	OA-106		
DOP's Wytox, dirt	OA-107	259	
Used acid filters	OA-108		
Contaminated, dirt, oil, etc.	OA-109		
Waste Diallylamine	OA-110	30	1
Adipic Dihydrazide	OA-111		
Cyclohexanol	OA-112	31	1
Benzene	OA-113	32	1
Hexane	OA-114	33	1
Phenol	OA-115		
Spent solvent (methanol/n-butanol)	OA-116		
Potassium Stearate	OA-117		
Wytox, floor sweepings, PAP, sand	OA-118	412, 702 - 705, 717 - 727, 457, 406	28
			51

TOTAL - 259

STE/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
Kempore floor sweeping, dirt	OW-119	STP.	
HPH sweepings	OW-120		
Asbestos (insulation)	OW-121		
Sodium Azide liners	OW-122		
Rytox 345	OW-123	253-286, 315 316, 322 328	38
Kempore SDA 200	OW-124		
Actafoam XR-34	OW-125	226-246 (Plus Pails 4)	25
Isopropanolamine	OW-126		
Diethanolamine	OW-127	317	1
PEG 400	OW-128	247, 248	2
Glycerine monooleate	OW-129		
Synthetic Methanol	OW-130	320, 321	2
Rytox PAP	OW-131	304-307, 454	5
DEEDAC	OW-132	700.	1
MAKON 10	OW-133	287-295, 412	10
Lagoon #1 Clean-up (Kempore, sand, water, etc.)	OW-134		84

STP

TE/HAZARDOUS WASTE	OLIN CONT. #	DRUM #	TOTAL DRUM
Benzonitrile/H_2O, Butanol	CW-135		
Kempore sweepings (GTR-1, GTR-3, EV-2)	CW-136	423-425, 556-621, 696-699	73
Kempore sweepings (Kem. FF, Kemp. MC)	CW-137		
Nitropore ATA F. Swps.	CW-138	445, 447, 448	3
RIA-CS	CW-139	392-395	4
Wytox 438-s/Wytox PAP-S	CW-140	407-409, 413, 426, 694, 731	7
PCBS - Transformer	CW-141		
CBSH-SD (50%)	CW-142	323-326	4
Calcium Stearate	CW-143	398	1
Kempore/711 Dispersion	CW-144		
Wytox, Opex, Kempore, Fl. Swps; Stones, dirt	CW-145	444, 446,	2
Gravel/sand contaminated with organics, (Plt. B tk. farm)	CW-146		
T.P. Sump sludge sewer MH	CW-147		
Wytox ADP-F (cyanox flakes) (Dioctyldiphenylamine)	CW-148	427, 429, 430	3
			97

STP.

NON-CSD WASTES.

1.	MAT 84910.	308-310	3
2.	PRODUCTS/CHEMICALS (MIXTURE)	403-405	3
3.	PMC-OG	428	1
4.	KEMP-DOP DISP. (SUPERNATANT)	552-555, 622. (KEMP. DOP ACTAFOAM R-3)	5
	UN-IDENTIFIED. DRUMS	(APPROX.)	15
			27

SHIPMENT DATE: Apr. 15, 1982

CODE	CSD. OW #	MATERIAL	STEFAN (NO. OF DRUMS)	COST $/DRUM	TOTAL COST $
634-AL	118	Wyton, Fl.Sup. etc.	27	35	945
				Transport	1648
				Total $	2593

Total 1982 $ 13457

M. R. Alsam
9/16/82

0059-0152

P-2

SHIPMENT DATE: Aug. 13, 1982.

CODE	CSD. DW #	MATERIAL	STEPAN (NO. OF DRUMS)	COST $/DRUM	TOTAL COST $
634-AE	106	Waste Paraformaldehyde. sand etc.	5	35	175
634-K	109	Dirt cont'd with Oil	3	35	105
634-AK	117	Potassium Stearate (Waste.)	4	35	140
634-AL	118	Wytox. Dirt etc Fl. swp.	20	35	700
634-W	119	Kemp. Fl. swp. Dirt. H_2O	15	35	525
					1645
				Transport:	1648
				Total $	3293

0059-0153

-3

RM ... -KG.

SHIPMENT DATE: Aug. 23, 1982

CODE	CSD. OW #	MATERIAL	STEPAN (NO. OF DRUMS)	COST $/DRUM	TOTAL COST $
634-L	102	Kemp/DOP Dispersions	2	35	70
634-R	107	DOP. Wytox. Dirt	11	35	385
634-T	115	Waste. Phenol.	2	125	250
634-AT	124	SDA 200 (Kemp/DOP)	34	35	1190
634-AR	126	Waste. Triisopropanolamine	2	35	70.
634-AM	129	Waste Glycerin mono-oleate	3	35	105
					2070
				Transport.	1648 Full load
				Total, $	3718

0059-0154

P-4

SHIPMENT DATE: Sep. 16, 1982

CODE	CSD. OW #	MATERIAL	STEPAN (NO. OF DRUMS)	COST $/DRUM	TOTAL COST $
634-L	102	Kemp/DOP Dispersions	4	35	140
634-AL	118	Wytox, Wytox F.C. Swps, Sand, Dirt etc.	22	35	770
634-W	119	Kemp. F.C. Swps, Dirt, H_2O	19	35	665
634-AT	124	SDA 200 (Kemp/DOP)	18	35	630
					$ 2205
				Transport	1648
				Total,	$ 3853

0059-0155